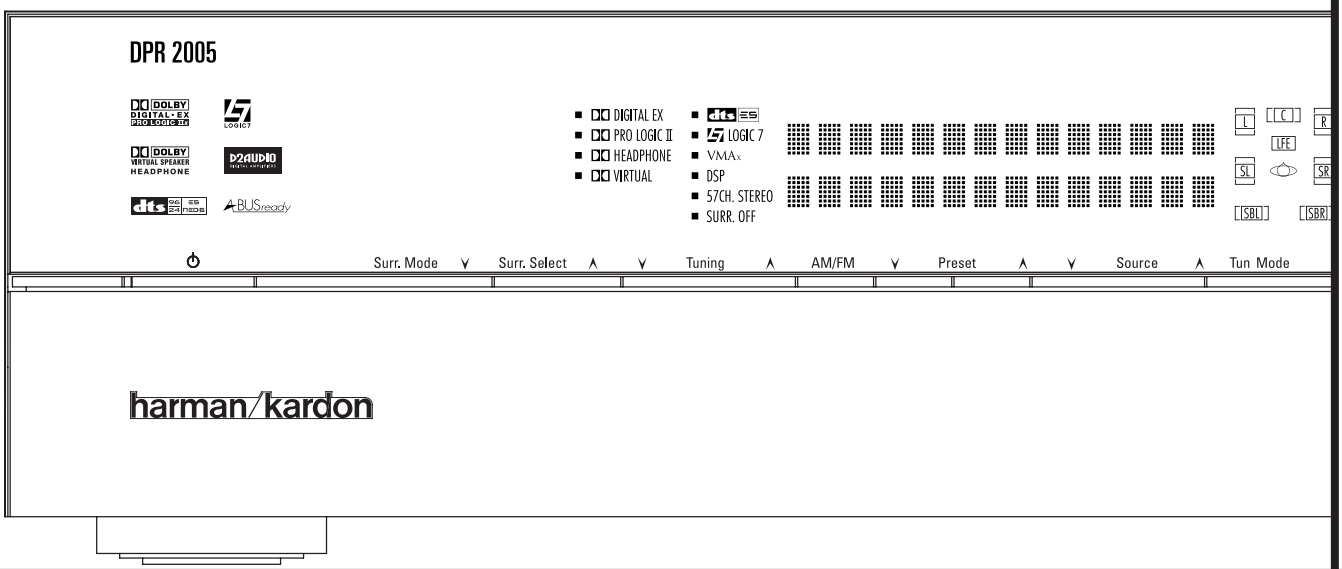
DPR 2005 Digital Path Receiver

OWNER'S MANUAL



harman/kardon®

Power for the Digital Revolution®

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Declaration of Conformity

CE

We, Harman Consumer Group International
2, route de Tours
72500 Château-du-Loir,
FRANCE

declare in own responsibility, that the product described in this owner's manual is in compliance with technical standards:

EN 55013/6.1990

EN 55020/12.1994

EN 60065:1993

EN 61000-3-2/4.1995

Jurjen Amsterdam
Harman Consumer Group International
04/04

Typographical Conventions
In order to help you use this manual with the remote control, front-panel controls and rear-panel connections, certain conventions have been used.

EXAMPLE – (bold type) indicates a specific remote control or front-panel button, or rear-panel connection jack

EXAMPLE – (OCR type) indicates a message that is visible on the front-panel information display

EXAMPLE – (Synchro type) indicates a message that is displayed on the remote control's LCD screen

1 – (number in a square) indicates a specific front-panel control

1 – (number in a circle) indicates a rear-panel connection

1 – (number in an oval) indicates a button or indicator on the remote

A – (letter in an oval) indicates a button on the Zone II remote

Introduction

Thank you for choosing Harman Kardon!
With the purchase of a Harman Kardon DPR 2005 you are about to begin many years of listening enjoyment. Thanks to its completely digital path system, the DPR 2005 is truly a multichannel receiver for the new millennium. In addition to the traditional 5.1 digital decoding modes such as Dolby Digital and DTS, it offers the latest advancements in surround technology such as Dolby Pro Logic IIx, the full suite of DTS-ES 6.1 modes, DTS Neo:6 and the latest 7.1 channel versions of Harman's own Logic 7 technology.

The DPR 2005 has been engineered so that it is easy to take advantage of all the power of its digital technology. On-screen menus, fully color coded connection jacks and terminals and our exclusive EzSet™ remote make installation fast and simple. However, to obtain the maximum enjoyment from your new receiver, we urge you to read this manual. A few minutes spent learning the functions of the various controls will enable you to take advantage of all the power the DPR is able to deliver.

If you have any questions about this product, its installation or its operation, please contact your retailer or custom installer. They are your best local sources of information.

Description and Features
Harman Kardon's breakthrough Digital Path Receiver technology, of which the DPR 2005 is the second generation, keeps signals in the digital domain from the input to the output. Along with the newly designed PWM digital amplifier, this not only reduces signal degradation caused by digital-to-analog conversion stages; the increased efficiency makes it possible to reduce the DPR's size and weight without sacrificing performance. The DPR 2005 is designed to serve as the hub of your home entertainment system, incorporating a wide range of listening options. In addition to Dolby Digital and DTS decoding for digital sources, a broad choice of surround modes for Matrix surround-encoded or Stereo recordings are available for use with sources such as CD, VCR, TV broadcasts and the DPR's own FM/AM tuner. Along with Dolby Digital EX, DTS-ES®, Dolby Pro Logic IIx, DTS Neo:6, 5 Channel or 7 Channel Stereo and Hall and Theater modes, the DPR 2005 offers Harman International's exclusive Logic 7 process in both 5.1 and 7.1 versions to create a wider, more enveloping field environment and more defined fly-overs and pans. Although the DPR 2005's primary use will be in multichannel systems, advanced technology is at work even when only two speakers are used. Dolby Virtual Speaker and Harman International's proprietary VMAx® are both available to create enveloping sound fields from front left and right speakers, and the latest Dolby Headphone circuitry creates an amazing sense of openness with headphones. Two-channel listening with analog sources is available with full bass management or in a traditional "bypass" mode.

Finally, the DPR is among the very few A/V receivers that offer decoding of MP3 data, so that you may listen to the latest music selections directly from compatible computers or playback devices with the power and fidelity you expect from Harman Kardon.

The DPR is also featuring HDCD® decoding to provide the most realistic playback of CDs when a digital connection is used, even with a normal non-HDCD-compatible CD or DVD player.

Along with the many listening options, the DPR 2005 offers numerous settings that let you customize the system. A Quadruple Crossover bass management system configures each speaker group for a different crossover setting, while the assignable, wide bandwidth component video inputs may be linked to any video source. To further enhance the viewing experience with digital video sources or advanced digital video displays, the DPR 2005's A/V Sync Delay feature allows you to compensate for the loss of lip sync common in many video processing systems by delaying the audio signal independently for each input. The EzSet remote measures a system's sound levels and automatically calibrates them for perfectly balanced sound field presentation.

For the ultimate in flexibility, the DPR 2005 features connections for six video devices, all with both composite and S-Video inputs. Two additional audio inputs are available, and a total of six digital inputs and three outputs make the DPR capable of handling all the latest digital audio sources.
For compatibility with the latest HDTV video sources and progressive scan DVD players, the DPR also features wide-bandwidth, low-crosstalk component video switching.

Coax and optical digital outputs are available for direct connection to digital recorders, and both the front panel analog audio/video and coaxial digital jacks may be switched to outputs for use with portable recorders – a Harman Kardon exclusive. Two video recording outputs, preamp-out and and a color-coded eight-channel input make the DPR virtually future-proof, with everything needed to accommodate tomorrow's new formats right on board.

The DPR 2005's flexibility and power extend beyond your main home theater or listening room. The DPR includes a sophisticated multi-zone control system that allows you to select one source for use in the main room and a different one (Audio only) in a second room. Complete control over volume is possible with a separate infrared control link. To make it easy to operate the DPR from a remote room, a separate "Zone II" remote is included.
Additional multiroom options include the option to assign two of the DPR's output channels to the multiroom system and the ability to link the DPR to innovative A-BUS® keypads for multiroom operation without the need for external amplifiers.

Harman Kardon invented the high-fidelity receiver more than forty-seven years ago. With state-of-the-art circuitry and time-honored circuit designs, the DPR is the perfect combination of the latest in digital audio technology, a quiet yet powerful analog amplifier in an elegant, easy-to-use package.

- **Dolby* Digital, Dolby Digital EX and Dolby Pro Logic* IIx Decoding, and the full suite of DTS® modes, including DTS-ES® 6.1 Discrete & Matrix and Neo:6® and DTS 96/24**
- **Harman Kardon's exclusive Logic 7® processing, along with a choice of either Dolby Virtual Speaker or VMAx® processing for use when only two speakers are available**
- **Dolby Headphone to create spacious, open sound fields when using headphones**
- **MP3 decoding for use with compatible computers and digital audio players**
- **EzSet® remote automatically sets output levels for optimum performance**
- **High-bandwidth, HDTV-compatible component video switching**
- **Front panel analog A/V inputs, switchable to outputs**
- **Front panel digital inputs with coax digital output capability for easy connection to portable digital devices and the latest video game consoles**
- **Multiple digital inputs and outputs**
- **On-screen menu and display system**
- **Extensive multiroom options, including a standard Zone II remote, assignable amplifier channels and A-BUS Ready® capability for listening to a separate source in a remote zone**
- **6-Channel/8-Channel Direct Input and Preamp Outputs for Easy Expansion and Use with Future Audio Formats**

HDCD, HDCD®, High Definition Compatible Digital® and Pacific Microsonics™ are either registered trademarks or trademarks of Pacific Microsonics, Inc., in the United States and/or other countries. HDCD System manufactured under license from Pacific Microsonics, Inc.

- **Extensive bass management options, and full digital bass management on the 6/8-channel direct inputs for use with DVD-Audio or SACD players, including Quadruple Crossover and individual settings for each input**
- **A/V Sync delay adjustable for each input delivers perfect lip sync with digital programs or video displays**
- **Main Backlit Remote with Internal Codes and Learning Capability**
- **HDCD Decoding for Superb CD Playback**

Important Safety Information

Verify Line Voltage Before Use
Your DPR 2005 has been designed for use with 220-240-Volt AC current. Connection to a line voltage other than that for which it is intended can create a safety and fire hazard and may damage the unit.

If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact your dealer before plugging the unit into a wall outlet.

Do Not Use Extension Cords
To avoid safety hazards, use only the power cord attached to your unit. We do not recommend that extension cords be used with this product. As with all electrical devices, do not run power cords under rugs or carpets or place heavy objects on them. Damaged power cords should be replaced immediately by an authorized service depot with a cord meeting factory specifications.

Handle the AC Power Cord Gently
When disconnecting the power cord from an AC outlet, always pull the plug, never pull the cord. If you do not intend to use the unit for any considerable length of time, disconnect the plug from the AC outlet.

Do Not Open the Cabinet
There are no user-serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your guarantee. If water or any metal object such as a paper clip, wire or a staple accidentally falls inside the unit, disconnect it from the AC power source immediately, and consult an authorized service station.

Installation Location
- To assure proper operation and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.
- Make certain that proper space is provided both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet. Under some circumstances a fan may be required.
- Do not place the unit directly on a carpeted surface.
- Avoid installation in extremely hot or cold locations, or an area that is exposed to direct sunlight or heating equipment.
- Avoid moist or humid locations.
- Do not obstruct the ventilation slots on the top of the unit, or place objects directly over them.

Cleaning
When the unit gets dirty, wipe it with a clean, soft, dry cloth. If necessary, wipe it with a soft cloth dampened with mild soapy water, then a fresh cloth with clean water. Wipe dry immediately with a dry cloth. NEVER use benzene, aerosol cleaners, thinner, alcohol or any other volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.

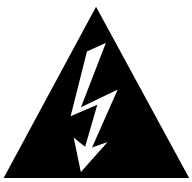
Moving the Unit
Before moving the unit, be certain to disconnect any interconnection cords with other components, and make certain that you disconnect the unit from the AC outlet.

Unpacking

The carton and shipping materials used to protect your new receiver during shipment were specially designed to cushion it from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move, or should the unit ever need repair.

To minimize the size of the carton in storage, you may wish to flatten it. This is done by carefully slitting the tape seams on the bottom and collapsing the carton. Other cardboard inserts may be stored in the same manner. Packing materials that cannot be collapsed should be saved along with the carton in a plastic bag.

If you do not wish to save the packaging materials, please note that the carton and other sections of the shipping protection are recyclable. Please respect the environment and discard those materials at a local recycling center.



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

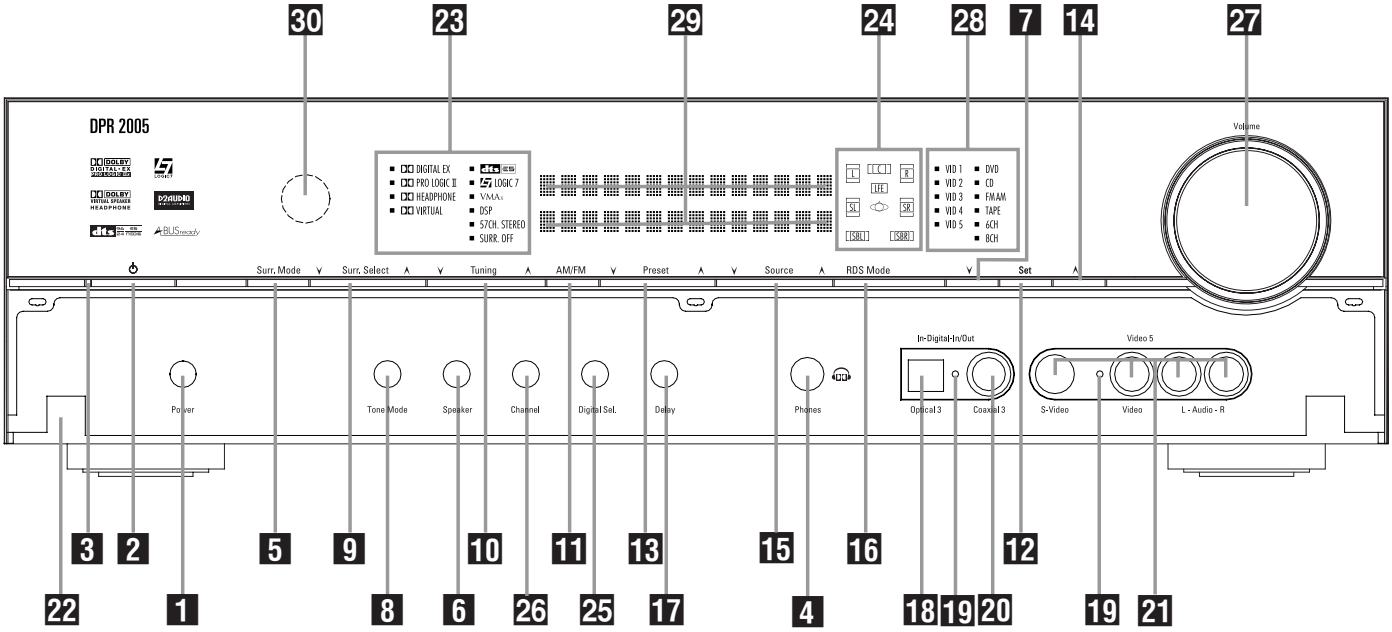
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Front Panel Controls



1 Main Power Switch
2 System Power Control
3 Power Indicator
4 Headphone Jack
5 Surround Mode Group Selector
6 Speaker Selector
7 ▼ Button
8 Tone Mode
9 Surround Mode Selector
10 Tuning Selector
11 Tuner Band Selector
12 Set Button
13 Preset Station Selector
14 ▲ Button
15 Input Source Selector
16 RDS Selector
17 Delay Adjust Selector
18 Digital Optical 3 Input
19 Input/Output Status Indicators
20 Digital Coax 3 Jack
21 Video 5 Input/Output Jacks
22 Front Panel Control Door
23 Surround Mode Indicators
24 Speaker/Channel Input Indicators
25 Digital Select Button
26 Channel Select Button
27 Volume Control
28 Input Indicators
29 Main Information Display
30 Remote Sensor Window

1 Main Power Switch: Press this button to apply power to the DPR. When the switch is pressed in, the unit is placed in a Standby mode, as indicated by the amber **LED 3** next to the **System Power Control 2**. This button MUST be pressed in to operate the unit. To turn the unit off completely and prevent the use of the remote control, this switch should be pressed until it pops out from the front panel so that the word "OFF" may be read at the top of the switch. **NOTE:** This switch is normally left in the "ON" position.

2 System Power Control: When the **Main Power Switch 1** is "ON," press this button to turn on the DPR; press it again to turn the unit off (to Standby). Note that the **Power Indicator** next to the switch **3** will turn blue when the unit is on.

3 Power Indicator: This LED will be illuminated in amber when the unit is in the Standby mode to signal that the unit is ready to be turned on. When the unit is in operation, the indicator will turn blue.

4 Headphone Jack: This jack may be used to listen to the DPR's output through a pair of headphones. Be certain that the headphones have a standard 6.3 mm stereo phone plug. Note that the main room speakers and all **Preamp Outputs** ㊳ will automatically be turned off when the headphone jack is in use.

5 Surround Mode Group Selector: Press this button to select the top-level group of surround modes. Each press of the button will select a major mode grouping in the following order:

Dolby Modes ➜ DTS Digital Modes ➜ VMAx Modes ➜ DSP Modes ➜ Stereo Modes ➜ Logic 7 Modes

Once the button is pressed so that the name of the desired surround mode group appears in the on-screen display and in the **Lower Display Line 29**, press the **Surround Mode Selector 9** to cycle through the individual modes available. For example, press this button to select Dolby modes, and then press the **Surround Mode Selector 9** to choose from the various mode options.

6 Speaker Selector: Press this button to begin the process of configuring the DPR for the type of speakers it is being used with. For complete information on configuring the speaker settings using the front-panel controls see page 22.

7 ▼ Button: When an adjustment is being made using the **Channel Select 26** or **Digital Select 25** buttons, this button may be pressed to scroll through the available options.

8 Tone Mode: Pressing this button enables or disables the Balance, Bass and Treble tone controls. When the button is pressed so that the words TONE IN appear in the **Main Information Display 29**, the settings of the **Bass** and **Treble** controls and of the **Balance** control will affect the output signals. When the button is pressed so that the words TONE OUT appear in the **Main Information Display 29**, the output signal will be "flat," without any balance, bass or treble alteration, no matter how the actual **Controls** are adjusted. (For more information, see page 22).

9 Surround Mode Selector: Press this button to cycle through the individual surround modes available after the **Surround Mode Group Selector 5** was pressed (see item **5** above). Note that depending on the type of input, some modes are not always available. (See page 34 for more information about surround modes).

10 Tuning Selector: Press the left side of the button to tune lower frequency stations and the right side of the button to tune higher frequency stations. When a station with a strong signal is reached, MANUAL TUNED or AUTO TUNED will appear in the **Main Information Display 29** (see page 43 for more information on tuning stations).

11 Tuner Band Selector: Pressing this button will automatically switch the DPR to the Tuner mode. Pressing it again will switch between the AM and FM frequency bands (See page 43 for more information on the tuner).

12 Set Button: When making choices during the setup and configuration process, press this button to enter the desired setting as shown in the **Main Information Display 29** into the DPR's memory.

13 Preset Stations Selector: Press this button to scroll up or down through the list of stations that have been entered into the preset memory. (See page 43 for more information on tuner programming.)

14 ▲ Button: When an adjustment is being made using the **Channel Select 26** or **Digital Select 25** buttons, this button may be pressed to scroll through the available options.

15 Input Source Selector: Press this button to change the input by scrolling through the list of input sources.

16 RDS Select Button: Press this button to display the various messages that are part of the RDS data system of the DPR's tuner. (See page 43 for more information on RDS).

17 Delay Adjust Selector: Press this button to begin the process of adjusting the delay settings for Dolby surround modes. See page 27 for more information on delay adjustments.

18 Digital Optical 3 Input: Connect the optical digital audio output of an audio or video product to this jack.

19 Input/Output Status Indicators: These LED indicators will normally light green to show that the front panel Video 5 A/V **21** jacks or the Coaxial 3 digital **20** jack is operating as an input. When either of these jacks has been configured for use as an output, the indicator will turn red to show that the jack may be used for recording. (See page 21 for more information on configuring the front panel jacks as outputs, rather than inputs.)

20 Digital Coax 3 Jack: This jack is normally used for connection to the output of portable audio devices, video game consoles or other products that have a coax digital jack. It may also be configured as an output jack, to feed a digital signal to a CD-R, MiniDisc or other digital recording device. (See page 21 for information on configuring the Digital Coax 3 Jack to an output.)

21 Video 5 Input/Output Jacks: These audio/video jacks may be used for temporary connection to video games or portable audio/video products such as camcorders and portable audio players. They may also be configured as output jacks (also S-Video) to feed a signal to any recording Audio or Video device (see page 38 for more information).

22 Front-Panel Control Door: To open the door so that the front-panel jacks and controls behind this door may be accessed, gently pull the door down and towards you using either upper corner of the door.

23 Surround Mode Indicators: The current selected mode or function will appear as one of these indicators. Note that when the unit is turned on, the entire list of available modes will light briefly, and then revert to normal operation with only the active mode indicator illuminated.

24 Speaker/Channel Input Indicators: These indicators are multipurpose, indicating either the speaker type selected for each channel or the incoming data-signal configuration. The left, center, right, right surround and left surround speaker indicators are composed of three boxes, while the subwoofer is a single box. The center box lights when a "Small" speaker is selected, and the two outer boxes light when "Large" speakers are selected. When none of the boxes are lit for the center, surround or subwoofer channels, no speaker has been selected for that position. (See page 22 for more information on configuring speakers.) The letters inside each of the center boxes display active input channels. For standard analog inputs, only the L and R will light, indicating a stereo input. When a digital source is playing, the indicators will light to display the channels begin received at the digital input. When the letters flash, the digital input has been interrupted. (See page 37 for more information on the Channel Indicators).

25 Digital Input Selector: Press this button to begin the process of selecting a digital source for use with the currently selected input. Once the button has been pressed, use the ▼/▲ **Buttons 7**/**14** to choose the desired input and then press the **Set Button 12** to enter the setting into the unit's memory. See page 34 for more information on digital audio.

26 Channel Select Button: Press this button to begin the process of trimming the channel output levels using an external audio source. (For more information on output level trim adjustment, see page 38).

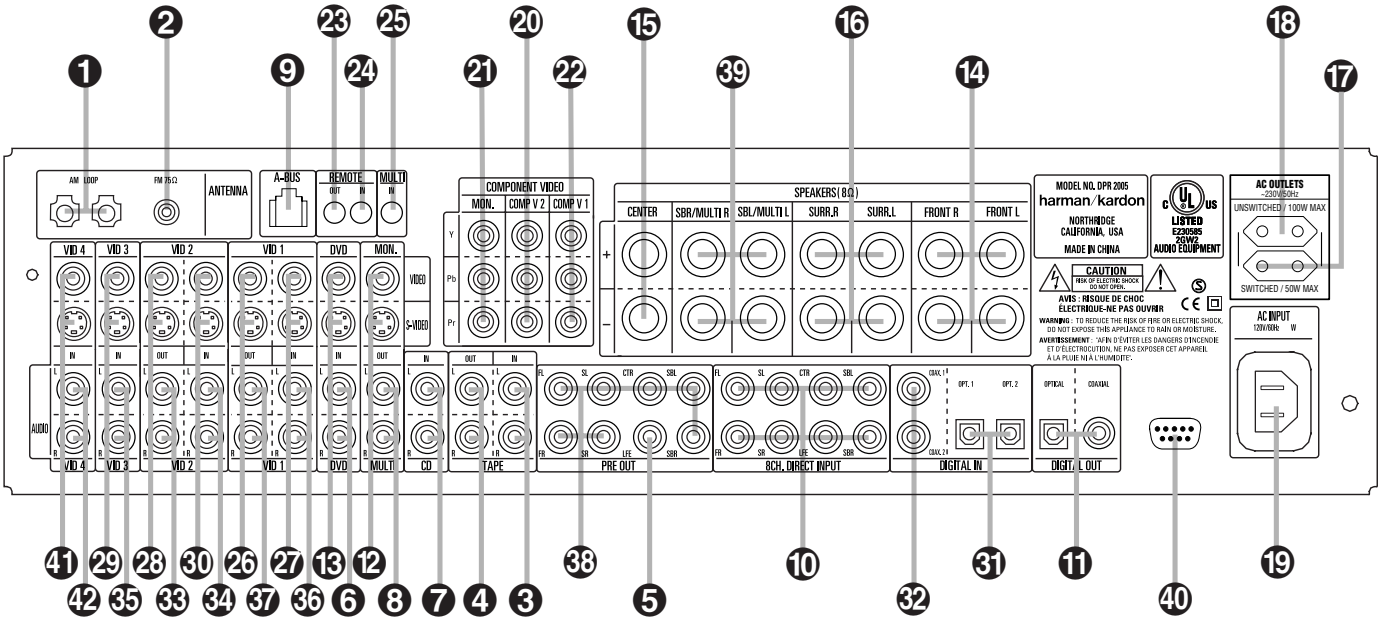
27 Volume Control: Turn this knob clockwise to increase the volume, counterclockwise to decrease the volume. If the DPR is muted, adjusting volume control will automatically release the unit from the silenced condition.

28 Input indicators: The current selected mode or function will appear as one of these indicators. Note that when the unit is turned on, the entire list of available modes will light briefly, and then revert to normal operation with only the active mode indicator illuminated.

29 Main Information Display: This display delivers messages and status indications to help you operate the receiver.

30 Remote Sensor Window: The sensor behind this window receives infrared signals from the remote control. Aim the remote at this area and do not block or cover it unless an external remote sensor is installed.

Rear Panel Connections



❶ AM Antenna
❷ FM Antenna
❸ Tape Inputs
❹ Tape Outputs
❺ Subwoofer Output
❻ DVD Audio Inputs
❼ CD Inputs
❽ Multiroom Outputs
❾ A-BUS Connector
❿ 8-Channel Direct Inputs
⓫ Digital Audio Outputs
⓬ Video Monitor Outputs
⓭ DVD Video Inputs
⓮ Front Speaker Outputs
⓯ Center Speaker Outputs
⓰ Surround Speaker Outputs
⓱ Switched AC Accessory Outlet
⓲ Unswitched AC Accessory Outlet
⓳ AC Power Cord Jack
⓴ Video 2 Component Video Inputs
㉑ Component Video Outputs
㉒ DVD Component Video Inputs
㉓ Remote IR Output
㉔ Remote IR Input
㉕ Multiroom IR Input
㉖ Video 1 Video Outputs
㉗ Video 1 Video Inputs
㉘ Video 2 Video Outputs
㉙ Video 3 Video Inputs
㉚ Video 2 Video Inputs
㉛ Optical Digital Inputs
㉜ Coaxial Digital Inputs
㉝ Video 2 Audio Outputs
㉞ Video 2 Audio Inputs
㉟ Video 3 Audio Inputs
㊱ Video 1 Audio Inputs
㊲ Video 1 Audio Outputs
㊳ Preamp Outputs
㊴ Surround Back/Multiroom Speaker Outputs
㊵ RS-232 Port
㊶ Video 4 Video Inputs
㊷ Video 4 Audio Inputs

NOTE: To assist in making the correct connections for multichannel input/output and speaker connections, all connection jacks and terminals have been color coded in conformance with the latest CEA standards as follows:

Front Left:	White
Front Right:	Red
Center:	Green
Surround Left:	Blue
Surround Right:	Gray
Surround Back Left:	Brown
Surround Back Right:	Tan
Subwoofer (LFE):	Purple
Digital Audio:	Orange
Composite Video:	Yellow
Component Video "Y":	Green
Component Video "Pr":	Red
Component Video "Pb":	Blue

❶ **AM Antenna:** Connect the AM loop antenna supplied with the receiver to these terminals. If an external AM antenna is used, make connections to the **AM** and **GND** terminals in accordance with the instructions supplied with the antenna.

❷ **FM Antenna:** Connect the supplied indoor or an optional external FM antenna to this terminal.

❸ **Tape Inputs:** Connect these jacks to the **PLAY/OUT** jacks of an audio recorder.

❹ **Tape Outputs:** Connect these jacks to the **RECORD/INPUT** jacks of an audio recorder.

❺ **Subwoofer Output:** Connect this jack to the line-level input of a powered subwoofer. If an external subwoofer amplifier is used, connect this jack to the subwoofer amplifier input.

❻ **DVD Audio Inputs:** Connect these jacks to the analog audio jacks on a DVD or other audio or video source.

❼ **CD Inputs:** Connect these jacks to the analog output of a compact disc player or CD changer or any other audio source.

❽ **Multiroom Outputs:** Connect these jacks to an optional audio power amplifier to listen to the source selected by the multiroom system in a remote room.

❾ **A-BUS Connector:** Connect this jack to an optional A-BUS-certified remote room keypad or amplifier to extend the multiroom capabilities of your DPR. See page 18 for more information on A-BUS.

❿ **8-Channel Direct Inputs:** These jacks are used for connection to source devices such as DVD-Audio or SACD players with discrete analog outputs. Depending on the source device in use, all eight jacks may be used, though in many cases only connections to the front left/right, center, surround left/right and LFE (subwoofer input) jacks will be used for standard 5.1 audio signals.

⓫ **Digital Audio Outputs:** Connect these jacks to the matching digital input connector on a digital recorder such as a CD-R or MiniDisc recorder.

⓬ **Video Monitor Outputs:** Connect this jack to the composite and/or S-Video input of a TV monitor or video projector to view the on-screen menus and the output of any standard Video or S-Video source selected by the receiver's video switcher.

⓭ **DVD Video Inputs:** Connect these jacks to the composite or S-Video output jacks on a DVD player or other video source.

⓮ **Front Speaker Outputs:** Connect these outputs to the matching + or – terminals on your left and right speakers. In conformance with the new CEA color code specification, the White terminal is the positive, or "+" terminal that should be connected to the red (+) terminal on Front Left speaker with the older color coding, while the Red terminal is the positive, or "+" terminal that should be connected to the red (+) terminal on Front Right speaker. Connect the black (–) terminals on the DPR to the black (–) terminals on the speakers. See page 15 for more information on speaker polarity.

⓯ **Center Speaker Outputs:** Connect these outputs to the matching + and – terminals on your center channel speaker. In conformance with the new CEA color code specification, the Green Terminal is the positive, or "+" terminal that should be connected to the red (+) terminal on speakers with the older color coding. Connect the black (–) terminal on the DPR to the black negative (–) terminal on your speaker. (See page 15 for more information on speaker polarity.)

⓰ **Surround Speaker Outputs:** Connect these outputs to the matching + and – terminals on your surround channel speakers. In conformance with the new CEA color code specification, the Blue terminal is the positive, or "+" terminal that should be connected to the red (+) terminal on the Surround Left speaker with older color coding, while the Gray terminal should be connected to the red (+) terminal on the Surround Right speaker with the older color coding. Connect the black (–) terminal on the DPR to the matching black negative (–) terminals for each surround speaker. (See page 15 for more information on speaker polarity.)

⓱ **Switched AC Accessory Outlet:** This outlet may be used to power any device that you wish to have turn on when the DPR is turned on with the **System Power Control** switch **2**.

⓲ **Unswitched AC Accessory Outlet:** This outlet may be used to power any AC device. The power will remain on at this outlet regardless of whether the DPR is on or off (in Standby), provided that the **Main Power** switch **1** is on.

Note: The total power consumption of all devices connected to the accessory outlets should not exceed 100 watts from the **Unswitched Outlet** ⓲ and 50 W from the **Switched Outlet** ⓱.

⓳ **AC Power Cord Jack:** Connect the AC power cord to this jack when the installation is complete. To ensure safe operation, use only the power cord supplied with the unit. If a replacement is required it must be of the same type and capacity.

⓴ **Component Video 2 Inputs:** These inputs may be used with any video source device equipped with analog Y/Pr/Pb or RGB component video outputs. The factory default is for these jacks to be a linked to the Video 2 input, but you may change the setting at any time through the IN/OUT SETUP menu. See page 15 for more information on configuring the component video inputs.

㉑ **Monitor Component Video Outputs:** Connect these outputs to the component video inputs of a video projector or monitor. When a source connected to one of the two **Component Video Inputs** ⓴㉒ is selected the signal will be sent to these jacks.

㉒ **Component Video 1 Inputs:** These inputs may be used with any source device equipped with analog Y/Pr/Pb or RGB component video outputs. The factory default is for these jacks to be a linked to the DVD input, but you may change the setting at any time through the IN/OUT SETUP menu. See page 15 for more information on configuring the component video inputs.

Note: All component inputs/outputs can be used for RGB signals too, in the same way as described for the Y/Pr/Pb signals, then connected to the jacks with the corresponding color. RGB connection is not possible if the source outputs a separate sync signal (see page 16).

㉓ **Remote IR Output:** This connection permits the IR sensor in the receiver to serve other remote controlled devices. Connect this jack to the "IR IN" jack on Harman Kardon or other compatible equipment.

㉔ **Remote IR Input:** If the DPR's front-panel IR sensor is blocked due to cabinet doors or other obstructions, an external IR sensor may be used. Connect the output of the sensor to this jack.

㉕ **Multiroom IR Input:** Connect the output of an IR sensor in a remote room to this jack to operate the DPR's multiroom control system.

㉖ **Video 1 Video Outputs:** Connect these jacks to the **RECORD/INPUT** composite or S-Video jack on a VCR.

㉗ **Video 1 Video Inputs:** Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on a VCR or other video source.

㉘ **Video 2 Video Outputs:** Connect these jacks to the **RECORD/INPUT** composite or S-Video jacks on a second VCR.

㉙ **Video 3 Video Inputs:** Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on any video source.

㉚ **Video 2 Video Inputs:** Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on a second VCR or other video source.

㉛ **Optical Digital Inputs:** Connect the optical digital output from a DVD player, HDTV receiver, the S/PDIF output of a compatible computer sound card playing MP3 files or streams, LD player, MD player or CD player to these jacks. The signal may be either a Dolby Digital signal, a DTS signal, a 2 channel MPEG 1 signal, an MP3 or HDCD data stream or a standard PCM digital source.

㉜ **Coaxial Digital Inputs:** Connect the coax digital output from a DVD player, HDTV receiver, the S/PDIF output of a compatible computer sound card playing MP3 files or streams, LD player, MD player or CD player to these jacks. The signal may be either a Dolby Digital signal, DTS signal, a 2 channel MPEG 1 signal, an MP3 or HDCD data stream or a standard PCM digital source. Do not connect the RF digital output of an LD player to these jacks.

㉝ **Video 2 Audio Outputs:** Connect these jacks to the **RECORD/INPUT** audio jacks on a VCR or any Audio recorder.

㉞ **Video 2 Audio Inputs:** Connect these jacks to the **PLAY/OUT** audio jacks on a second VCR or other audio or video source.

㉟ **Video 3 Audio Inputs:** Connect these jacks to the **PLAY/OUT** audio jacks on any audio or video source.

㊱ **Video 1 Audio Inputs:** Connect these jacks to the **PLAY/OUT** audio jacks on a VCR or other audio or video source.

㊲ **Video 1 Audio Outputs:** Connect these jacks to the **RECORD/INPUT** audio jacks on a VCR or any other Audio recorder.

㊳ **Preamp Outputs:** Connect these jacks to an optional, external power amplifier for applications where higher power is desired.

㊴ **Surround Back/Multiroom Speaker Outputs:** These speaker terminals are normally used to power the surround back left/surround back right speakers in a 7.1 channel system. However, they may also be used to power the speakers in a second zone, which will receive the output selected for a multiroom system.
To change the output fed to these terminals from the default of the Surround Back speakers to the Multiroom Output, you must change a setting in the Advanced Menu of the OSD system. See page 37 for more information on configuring this speaker output. In normal surround system use, the brown and black terminals are the surround back left channel positive (+) and negative (–) connections and the tan and black terminals are the surround back right positive (+) and negative (–) terminals.
For multiroom use, connect the brown and black SBL terminals to the red and black connections on the left remote zone speaker and connect the tan and black SBR terminals to the red and black terminals on the right remote zone speaker.

㊵ **RS-232 Port:** This jack may be used to control the DPR 2005 over a bi-directional RS-232 serial control link to a compatible computer or programmable remote control system. Due to the complexity of programming RS-232 commands we strongly recommend that connections to this port for control purposes be made by a trained and qualified technician. This jack may also link to a compatible computer to upgrade the software and operating system of the DPR 2005 when appropriate upgrades are available.

㊶ **Video 4 Video Inputs:** Connect these jacks to the **PLAY/OUT** composite or S-Video jacks on a second VCR or other video source.

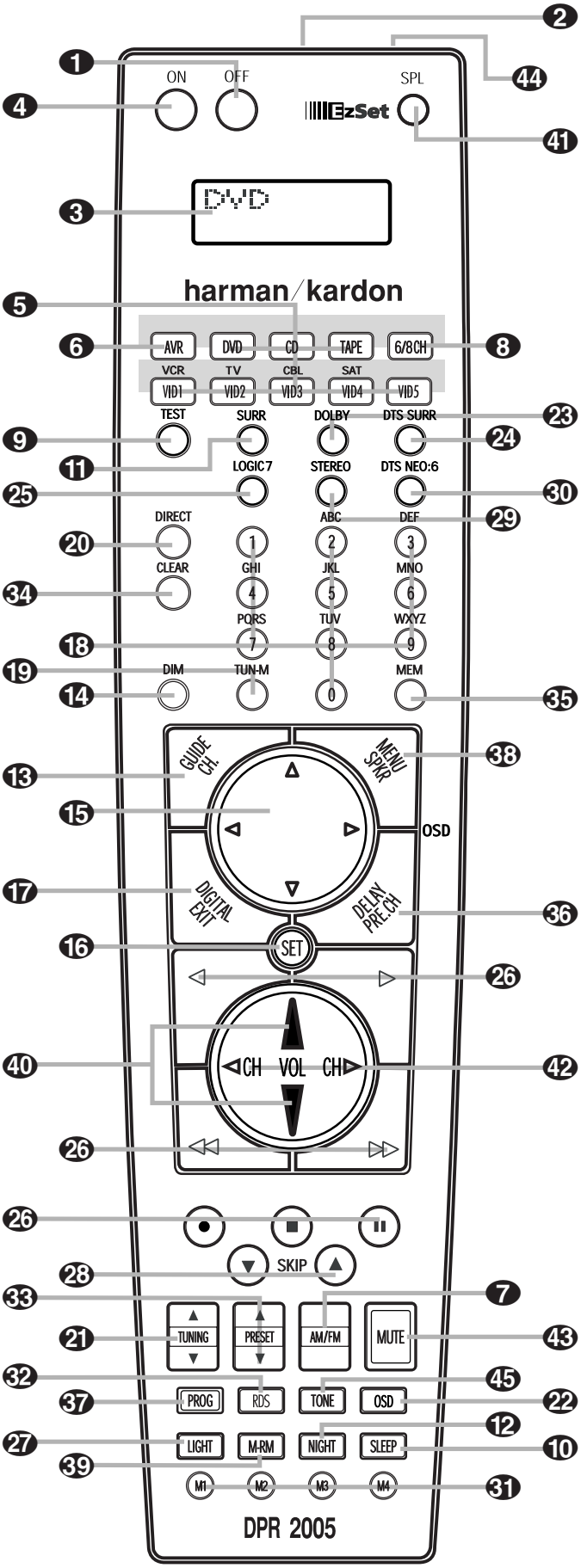
㊷ **Video 4 Audio Inputs:** Connect these jacks to the **PLAY/OUT** audio jacks on a VCR or other audio or video source.

Main Remote Control Functions

1. Power Off Button
2. IR Transmitter Window
3. LCD Information Display
4. Power On Button
5. Input Selectors
6. AVR Selector
7. AM/FM Tuner Select
8. 6-Channel/8-Channel Direct Input
9. Test Button
10. Sleep Button
11. Surround Mode Selector
12. Night Mode
13. Channel Select Button
14. Dim Button
15. Navigation Button
16. Set Button
17. Digital Select
18. Numeric Keys
19. Tuner Mode
20. Direct Button
21. Tuning Up/Down
22. OSD Button
23. Dolby Mode Select Button
24. DTS Digital Mode Selector
25. Logic 7 Mode Select Button
26. Transport Controls
27. Light Button
28. Skip Up/Down Buttons
29. Stereo Mode Select Button
30. DTS Neo:6 Mode Select
31. Macro Buttons
32. RDS Selector Button
33. Preset Up/Down
34. Clear Button
35. Memory Button
36. Delay/Prev. Ch.
37. Program Button
38. Speaker Select
39. Multiroom
40. Volume Up/Down
41. SPL Indicator Select
42. Channel Up/Down Selector
43. Mute
44. EzSet Sensor Microphone
45. Tone Control Button

NOTE: The function names shown here are each button's feature when used with the DPR. Most buttons have additional functions when used with other devices.

The jack on the upper right side of the remote is reserved for future use. Do not remove the plug provided or connect any device to the jack.



IMPORTANT NOTE: The DPR 2005's remote may be programmed to control up to nine devices, including the DPR. Before using the remote, it is important to remember to press the **Input Selector** button ❺ that corresponds to the unit you wish to operate. In addition, the DPR's remote is shipped from the factory to operate the DPR and most Harman Kardon CD or DVD players and cassette decks. The remote is also capable of operating a wide variety of other products using the control codes that are part of the remote or by learning commands from other remotes. Before using the remote with other products, follow the instructions on pages 46-48 to program the proper codes for the products in your system.

It is also important to remember that many of the buttons on the remote take on different functions, depending on the product selected using the **Input Selector Button** ❺. The descriptions shown here primarily detail the functions of the remote when it is used to operate the DPR.

❶ **Power Off Button:** Press this button to place the DPR or a selected device unit in the Standby mode. Note that when the DPR is switched off this will turn off the main room functions, but if the Multiroom system is activated, it will continue to function.

❷ **IR Transmitter Window:** Point this window towards the DPR when pressing buttons on the remote to make certain that infrared commands are properly received.

❸ **LCD Information Display:** This two-line screen displays various information depending on the commands that have been entered into the remote.

❹ **Power On Button:** Press this button to turn on the power to a device selected by pressing one of the **Input Selectors** ❺ (except Tape).

❺ **Input Selectors:** Pressing one of these buttons will perform three actions at the same time. First, if the DPR is not turned on, this will power up the unit. Next, it will select the source shown on the button as the input to the DPR. Finally, it will change the remote control so that it controls the device selected. After pressing one of these buttons you must press the **AVR Selector** button ❻ again to operate the DPR's functions with the remote.

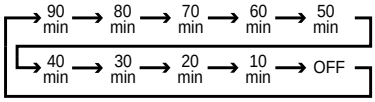
❻ **AVR Selector:** Pressing this button will switch the remote so that it will operate the DPR's functions. If the DPR is in the Standby mode, it will also turn the DPR on.

❼ **AM/FM Tuner Select:** Press this button to select the DPR's tuner as the listening choice. Pressing this button when the tuner is in use will select between the AM and FM bands.

❽ **6-Channel/8 Channel Direct Input:** Press this button to select the device connected to the **6-Channel Direct Inputs** or the **8-Channel Direct Inputs** ❿ (the input available will depend on the selection 5.1 or 6.1/7.1 made in the surround mode setting, see page 25 for more information).

❾ **Test Tone:** Press this button to begin the sequence used to calibrate the DPR's output levels. (See page 29 for more information on calibrating the DPR.)

❿ **Sleep Button:** Press this button to place the unit in the Sleep mode. After the time shown in the display, the DPR will automatically go into the Standby mode. Each press of the button changes the time until turn-off in the following order:



Hold the button pressed for two seconds to turn off the Sleep mode setting.
Note that this button is also used to change channels on your TV, VCR and Sat receiver when the appropriate source is selected, using the device **Input Selectors** ❺.

⓫ **Surround Mode Selector:** Press this button to select any of the HALL, THEATER or VMAx surround modes. Note that depending on the type of input, some modes are not always available. (See page 31 for more information about surround modes.) Note that this button is also used to tune channels on your TV, VCR and Sat receiver when the appropriate source is selected using the device **Input Selector** ❺.

⓬ **Night Mode:** Press this button to activate the Night mode. This mode is available only with Dolby Digital encoded sources, and it preserves dialog (center channel) intelligibilty at low volume levels (See page 27 for more information).

⓭ **Channel Select Button:** This button is used to start the process of setting the DPR's output levels with an external source. Once this button is pressed, use the ▲/▼ buttons ⓯ to select the channel being adjusted, then press the **Set** button ⓰, followed by the ▲/▼ buttons ⓯ again, to change the level setting. (See page 38 for more information.)

⓮ **Dim Button:** Press this button to activate the Dimmer function, which reduces the brightness of the front-panel display, or turns it off entirely. Press the button once to change the display to reduce the brightness by 50%, and press it again within five seconds and the main display will go completely dark. Note that this setting is temporary; regardless of any changes, the display will always return to full brightness when the DPR is turned on. The blue illumination next to the **Standby/On Button** 1 will always remain at full brightness regardless of the setting to remind you that the DPR is still turned on. The blue accent lighting inside the volume control will also remain at full brightness when the panel is at 50%, but go out when the panel lights are fully dimmed.

⓯ **Navigation Button:** This single disc-like button is used to change or scroll through items in the on-screen menus or on the front panel or to make configuration settings such as digital inputs or delay timing. When changing a setting, first press the button for the function or setting to be changed (e.g., press the **Digital Select Button** ⓱ to change a digital input) and then press one of these buttons to scroll through the list of options or to increase or decrease a setting. The sections in this manual describing the individual features and functions contain specific information on using these buttons for each application.

⓰ **Set Button:** This button is used to enter settings into the DPR's memory. It is also used in the setup procedures for delay time, speaker configuration and channel output level adjustment.

⓱ **Digital Select:** Press this button to assign one of the digital inputs ㉛㉜18 20 to a source. (See page 35 for more information on using digital inputs.)

⓲ **Numeric Keys:** These buttons serve as a ten-button numeric keypad to enter tuner preset positions. They are also used to select channel numbers when **TV**, **VCR** or **Sat** receiver has been selected on the remote, or to select track numbers on a CD, DVD or LD player, depending on how the remote has been programmed.

⓳ **Tuner Mode:** Press this button when the tuner is in use to select between automatic tuning and manual tuning. When the button is pressed so MANUAL/MONO appears in the **Main Information Display** 29, pressing the **Tuning** buttons ㉑10 will move the frequency up or down in single-step increments. When the FM band is in use and AUTO/STEREO appears in the **Main Information Display** 29, pressing this button will change to monaural reception making even week stations audible. (See page 43 for more information.)

⓴ **Direct Button:** Press this button when the tuner is in use to start the sequence for direct entry of a station's frequency. After pressing the button simply press the proper **Numeric Keys** ⓲ to select a station (See page 43 for more information on the tuner).

21 Tuning Up/Down: When the tuner is in use, these buttons will tune up or down through the selected frequency band. If the **Tuner Mode** button 19 has been pressed or the **Band** button 11 on the front panel was held pressed so that AUTO appears in the **Main Information Display** 29, pressing either of the buttons will cause the tuner to seek the next station with acceptable signal strength for quality reception. When the MANUAL appears in the **Main Information Display** 29, pressing these buttons will tune stations in single-step increments. (See page 43 for more information.)

22 OSD Button: Press this button to activate the On Screen Display (OSD) system used to set up or adjust the DPR's parameters.

23 Dolby Mode Selector: This button is used to select one of the available Dolby Surround processing modes. Each press of this button will select one of the Dolby Pro Logic II, Dolby Pro Logic IIx or Dolby Digital. Note that the Dolby Digital mode is only available with a digital input selected and the other modes only as long as a Dolby Digital source is not playing (except Pro Logic II with Dolby Digital 2.0 recordings, see Note on page 7). See page 31 for the available Dolby surround mode options.

24 DTS Digital Mode Selector: When a DTS source is in use the DPR will select the appropriate mode automatically and no other mode will be available. Pressing this button will display the mode currently selected by the DPR's decoder, depending on the surround material played and the speaker setting (see item 6, page 5). When a DTS source is not in use, this button has no function. (See page 25, 31 for the available DTS options.)

25 Logic 7 Selector: Press this button to select one of the available Logic 7 surround modes. (See page 31 for the available Logic 7 options.)

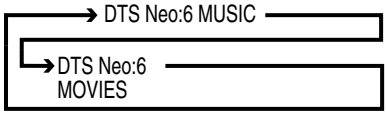
26 Transport Control Buttons: These buttons do not have any functions for the DPR, but they may be programmed for the forward/reverse play operation of a wide variety of CD or DVD players, and audio or video- cassette recorders. (See page 46 for more information on programming the remote.)

27 Light Button: Press this button to activate the remote's built-in backlight for better legibility of the buttons in a darkened room.

28 Skip Up/Down Buttons: These buttons do not have a direct function with the DPR, but when used with a compatibly programmed CD or DVD player/changer they will change the tracks on the disc currently being played.

29 Stereo Mode Selector: Press this button to select a stereo playback mode. When the button is pressed so that SURR OFF appears in the **Main Information Display** 29 and only the SURR. OFF indicators are lit, the DPR will operate in a bypass mode with true fully analog, two-channel left/right stereo mode with no surround processing or bass management as opposed to other modes where digital processing is used. When the button is pressed so that SURROUND OFF appears in the **Main Information Display** 29 and both the DSP and SURR. OFF indicators are lit, you may enjoy a two-channel presentation of the sound along with the benefits of bass management. When the button is pressed so that 5 CH STEREO or 7 CH STEREO appears, the stereo signal is routed to all five speakers, if installed. (See page 27 for more information on stereo playback modes).

30 DTS Neo:6 Mode Selector: Pressing this selector button cycles the DPR through the various DTS Neo:6 modes, which extract a three-, five- or six-channel surround field from two-channel program material (from PCM source or analog input signal). The first press selects the last DTS Neo:6 surround mode that was in use, and each subsequent press selects the next mode in the following order:



31 Macro Buttons: Press these buttons to store or recall a "Macro", which is a pre-programmed sequence of commands stored in the remote. (See page 49 for more information on storing and recalling macros.)

32 RDS Select Button: Press this button to display the various messages that are part of the RDS data system of the DPR's tuner. (See page 45 for more information on RDS).

33 Preset Up/Down: When the tuner is in use, press these buttons to scroll through the stations programmed into the DPR's memory. When CD or DVD is selected using the **Input Selector** button 5, these buttons may function as Slow Fwd/Rev (DVD) or "+10" (CD, CDR).

34 Clear Button: Press this button to clear incorrect entries when using the remote to directly enter a radio station's frequency.

35 Memory Button: Press this button to enter a radio station into the DPR's preset memory. As soon as the station's frequency starts blinking in the **Main Information Display** 29, you have five seconds to enter a preset memory location using the **Numeric Keys** 18. (See page 43 for more information.)

36 Delay Select Button: This button selects adjustments to the A/V Sync Delay and the individual channel displays. The first press of the button displays an A/V SYNC DELAY message in the **Lower Display Line** 29 and in the on-screen display, which means that you may change the amount of time that all channels are delayed together behind the video. This enables you to compensate for the loss of lip sync that may be caused by digital video processing in your display or by television stations. To change the A/V Sync Delay, press the **Set Button** 16 while the A/V SYNC DELAY message is visible and then use the ▲/▼ **Navigation Button** 15 to change the setting so that the sound and the video image are in sync. To change the delay for an individual output channel, press the ▲/▼ **Navigation Button** 15 until the desired channel name is shown, and then press the **Set Button** 16. Use the ▲/▼ **Navigation Buttons** 15 to change the delay amount. (See page 27 for more information on delay options.)

37 Program Button: This button is used to begin the process of programming the remote. Press and hold this button for three seconds to place the remote in the programming mode. Once the red LED under the **Set Button** 16 lights, release the button. You may then select from the desired option. (See pages 46-48 for more information on configuring the remote.)

38 Speaker Select: Press this button to begin the process of configuring the DPR's Bass Management System for use with the type of speakers used in your system. Once the button has been pressed, use the ▲/▼ buttons 15 to select the channel you wish to set up. Press the **Set Button** 16 and then select the speaker type (Large, Small or None) appropriate with the speaker in use. (See page 21 for more information.)

39 Multi-Room: Press this button to activate the Multiroom system or to begin the process of changing the input or volume level for the second zone. (See page 42 for more information on the Multiroom system.)

40 Volume Up/Down: Press these buttons to raise or lower the system volume.

41 SPL Select Button: This button activates the EzSet function to quickly and accurately calibrate the DPR 2005's output levels. When the button is pressed you will then need to select between automatic EzSet operation or using the remote as a manual SPL meter by pressing the ▲/▼ **Navigation Button 15** until your choice appears in the remote's LCD display. Press the **Set Button 16** to enter the setting, and then follow the instructions as displayed in the LCD display. (For complete information, see page 28.)

42 Channel Up/Down Selector: This button has no function when the DPR is being controlled, but when programmed for use with a VCR, TV, cable box, satellite receiver or other similar product it will change the channel up or down. See pages 46-48 for more information on programming the remote.

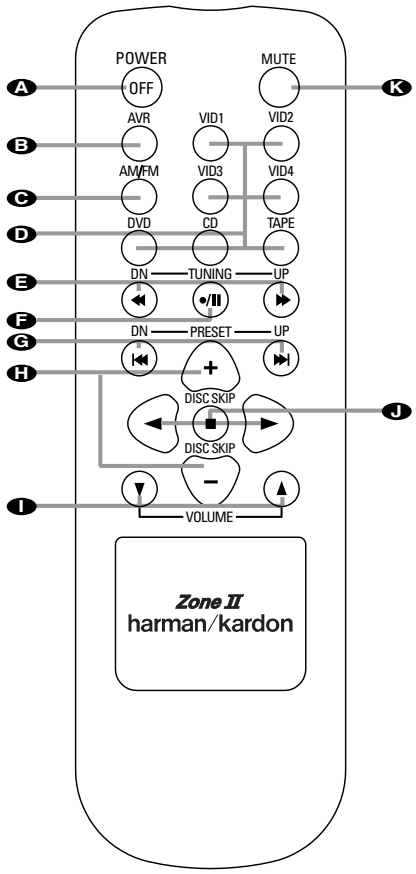
43 Mute: Press this button to momentarily silence the DPR or TV set being controlled, depending on which device has been selected. When the DPR remote is being programmed to operate another device, this button is pressed with the **Input Selector** button **5** to begin the programming process. (See page 46 for more information on programming the remote.)

44 EzSet Sensor Microphone: The sensor microphone for the EzSet microphone is behind these slots. When using the remote to calibrate speaker output levels using EzSet, be sure that you do not hold the remote in a way that covers these slots. (See page 28 for more information on using EzSet).

45 Tone Control Button: This button controls the tone mode settings, enabling adjustment of the bass and treble boost/cut. You may also use it to take the tone controls out of the signal path completely for "flat" response. The first press of the button displays a `TONE IN` message in the **Lower Display Line 29** and in the on-screen display. To take the controls out of the signal path press either of the ▲/▼ **Navigation Buttons 15** until the display reads `TONE OUT`. To change the bass or treble settings, press the button again until the desired option appears in the **Lower Display Line 29** and in the on-screen display and then press either of the ▲/▼ **Navigation Buttons 15** to enter the desired boost or cut setting. See page 22 for more information on the tone controls.

NOTE: With the press of any remote button the **Input Selector button 5 6** associated with the botton pressed will briefly flash red to confirm the transmission of the command, as long as there is a function for that button with the device selected.

Zone II Remote Control Functions



The Zone II remote may be used in either the same room where the DPR is located, or it may be used in a separate room with an optional infrared sensor that is connected to the DPR's **Multi IR** input jack 25.

A Power Off: When used in the room where the DPR is located, press this button to place the unit in Standby. When it is used in a remote room with a sensor that is connected to the **Multi IR** jack 25, this button turns the Multi-Room system off.

B AVR Selector: Press this button to turn on the DPR. The input in use when the unit was last on will be selected.

C AM/FM Tuner Select: Press this button to select the Tuner as the input to the Multiroom system. Press it again to change between the AM and FM bands.

D Input Selectors: When the DPR is off, press one of these buttons to turn the unit on and to select a specific input. When the unit is already in use, pressing one of these buttons will change the input.

E Tuning Up/Down – Fast Play: These buttons may be used to change the frequency of the tuner. These buttons may also control the Fast Play or Fast Reverse functions of compatible Harman Kardon CD, DVD or cassette decks in the same room, or from a remote room when an IR link is connected to the DPR.

F Record/Pause: Press this button to activate the Record or Pause function on compatible Harman Kardon CD, DVD or Cassette Deck products.

G Preset Up/Down – Track Skip: When the DPR's tuner is selected as the input source, these buttons will move up or down through the list of stations that have been stored in the preset memory. When a CD or DVD player is selected, these buttons activate the forward or reverse track or chapter skip functions.

H Disc Skip: Press this button to change discs on compatible Harman Kardon CD or DVD changers.

I Volume Up/Down: When used in the room where the DPR is located, press this button to raise or lower the volume in that room. When it is used in a remote room with a sensor that is connected to the **Multi IR** Jack 25, this button will raise or lower the volume in the remote room.

J Play Forward/Reverse/Stop: Press these buttons to control compatible Harman Kardon CD, DVD or cassette players.

● Mute: When used in the room where the DPR is located, press this button to temporarily silence the unit. When it is used in a remote room with a sensor that is connected to the **Multi IR** Jack 25, this button will temporarily silence the feed to the remote room only. Press the button again to return to the previous volume level.

Important Note: No matter in which room the Zone II remote is used, as with the main remote it is important to remember to press the **Input Selector** button D that corresponds to the unit you wish to operate befor you change the device to be controlled.

- A Power Off
- B AVR Selector
- C AM/FM Tuner Select
- D Input Selectors
- E Tuning Up/Down – Fast Play
- F Record/Pause
- G Preset/Track Skip
- H Disc Skip
- I Volume Up/Down
- J Play Forward/Reverse/Stop
- ● Mute

NOTE: The Zone II remote may be used in either the same room where the DPR is located, or it may be used in a separate room with an optional infrared sensor that is connected to the DPR's **Multi IR** input jack 25. When it is used in the same room as the DPR, it will control the functions of the DPR or any compatible Harman Kardon products in that room. When it is used in a separate room via a sensor connected to the **Multi IR** Jack 25, the buttons for power, input source, volume and mute will control the source and volume for the second zone, as connected to the Multi Out Jacks 8. (See page 42 for complete information on using the Multiroom system.)

After unpacking the unit, and placing it on a solid surface capable of supporting its weight, you will need to make the connections to your audio and video equipment.

Audio Equipment Connections

We recommend that you use high-quality interconnect cables when making connections to source equipment and recorders to preserve the integrity of the signals.

When making connections to audio source equipment or speakers it is always a good practice to unplug the unit from the AC wall outlet. This prevents any possibility of accidentally sending audio or transient signals to the speakers that may damage them.

1. Connect the analog output of a CD player to the **CD** inputs ❼.

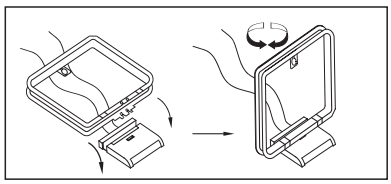
NOTE: When the CD player has both fixed and variable audio outputs it is best to use the fixed output unless you find that the input to the receiver is so low that the sound is noisy, or so high that the signal is distorted.

2. Connect the analog Play/Out jacks of a cassette deck, MD, CD-R or other audio recorder to the **Tape Input** jacks ❸. Connect the analog Record/In jacks on the recorder to the **Tape Output** jacks ❹ on the DPR.

3. Connect the digital output of any digital sources such as a CD or DVD changer or player, advanced video game, a digital satellite receiver, HDTV tuner or digital cable set-top box or the output of a compatible computer sound card to the **Optical** and **Coaxial Digital Inputs** ㉛ ㉜ 18 20.

4. Connect the **Coaxial or Optical Digital Outputs** ⓫ on the rear panel of the DPR to the matching digital input connections on a CD-R or MiniDisc recorder.

5. Assemble the AM Loop Antenna supplied with the unit as shown below. Connect it to the **AM** and **GND** screw terminals ❶.



6. Connect the supplied FM antenna to the **FM (75 ohm)** connection ❷. The FM antenna may be an external roof antenna, an inside powered or wire lead antenna or a connection from a cable system. Note that if the antenna or connection uses 300-ohm twin-lead cable, you should use a 300-ohm-to-75-ohm adapter to make the connection.

7. Connect the front, center and surround speaker outputs ⓮⓯⓰㊴ to the respective speakers.

To assure that all the audio signals are carried to your speakers without loss of clarity or resolution, we suggest that you use high-quality speaker cable. Many brands of cable are available and the choice of cable may be influenced by the distance between your speakers and the receiver, the type of speakers you use, personal preferences and other factors. Your dealer or installer is a valuable resource to consult in selecting the proper cable.

Regardless of the brand of cable selected, we recommend that you use a cable constructed of fine, multistrand copper with an area greater than 2 mm^2.

Cable with an area of 1.5 mm^2 may be used for short runs of less than 4 m. We do not recommend that you use cables with an area less than 1mm^2 due to the power loss and degradation in performance that will occur.

Cables that are run inside walls should have the appropriate markings to indicate listing with any appropriate testing agency standards. Questions about running cables inside walls should be referred to your installer or a licensed electrician who is familiar with the applicable local building codes in your area.

When connecting wires to the speakers, be certain to observe proper polarity. Note that the positive (+) terminal of each speaker connection now carries a specific color code as noted on page 7. However, most speakers will still use a red terminal for the postive (+) connection. Connect the "negative" or "black" wire to the same terminal on both the receiver and the speaker.

NOTE: While most speaker manufacturers adhere to an industry convention of using black terminals for negative and red ones for positive, some manufacturers may vary from this configuration. To assure proper phase and optimal performance, consult the identification plate on your speaker or the speaker's manual to verify polarity. If you do not know the polarity of your speaker, ask your dealer for advice before proceeding, or consult the speaker's manufacturer.

We also recommend that the length of cable used to connect speaker pairs be identical. For example, use the same length piece of cable to connect the front-left and front-right or surround-left and surround-right speakers, even if the speakers are a different distance from the DPR.

8. Connections to a subwoofer are normally made via a line level audio connection from the **Subwoofer Output** ❺ to the line-level input of a subwoofer with a built-in amplifier. When a passive subwoofer is used, the connection first goes to a power amplifier, which will be connected to one or more subwoofer speakers. If you are using a powered subwoofer that does not have line-level input connections, follow the instructions furnished with the speaker for connection information.

9. If an external multi-channel audio source with 5.1 or 7.1 outputs such as an external digital processor/decoder, DVD-Audio or SACD player is used, connect the outputs of that device to the **8-Channel Direct Inputs** ⓾.

Video Equipment Connections

Video equipment is connected in the same manner as audio components. Again, the use of high-quality interconnect cables is recommended to preserve signal quality. To ensure best video performance S-Video sources should be connected to the DPR only with their S-Video In/Outputs, not with their composite video connectors too.

1. Connect a VCR's audio and video Play/Out jacks to the **Video 1** or **Video 2 In** jacks ㉗㉚ ㉞㊱ on the rear panel. The Audio and Video Record/In jacks on the VCR should be connected to the **Video 1** or **Video 2 Out** jacks ㉖㉘ ㉝㊲ on the DPR.
Although any other video device may also be connected to these jacks, we particularly recommend that VCRs and PVRs be connected to the Video 1 Input Jacks so that you are able to take advantage of the remote control codes for these devices that are programmed for the "Video1/VCR" button of the unit's remote control.

2. Connect the analog audio and video outputs of a satellite receiver, cable TV converter or television set or any other video source to the **Video 3** ㉙㉟ or **Video 4** ㊶㊷ Input jacks.
Although any type of video source device may be connected to these jacks, the remote control has the commands for the Video 3 inputs set to control a cable set-top box and the commands for the Video 4 inputs set to control a satellite receiver. However, you may reassign the commands for any type of device to either button on the remote using the instruction shown for "Changing Devices" as shown on page 48. You may also learn the codes for the device connected to any input by following the instructions for "Learning Codes" shown on page 47.

3. Connect the analog audio and video outputs of a DVD or laser disc player to the **DVD** jacks ❻⓭.

4. Connect the digital audio outputs of a CD, MD or DVD player, satellite receiver, cable box or HDTV converter to the appropriate **Optical** or **Coaxial Digital Inputs** ㉛㉜18 20.

NOTE: When connecting a device such as a digital cable box or other set-top tuner product with a digital audio output, we recommend that you connect both the digital and analog outputs of the product to your DPR. The audio input polling feature of the DPR will then be able to make certain that you have a constant audio feed, since it will automatically switch the audio input to the analog jacks if the digital feed is interrupted or not available for a particular channel.

5. Connect the **Composite** and **S-Video** (if S-Video device is in use) **Monitor Output** ⑫ jacks on the receiver to the composite and S-Video input of your television monitor or video projector.

6. If your DVD Player has Y/Pr/Pb analog component video outputs, connect them to the **Component Video 1 Inputs** ㉒. Although this set of inputs may be assigned to any of the five video inputs on the DPR 2005, the factory default is for this input to be assigned to the **DVD Audio Inputs** ⑥. Remember to make a digital audio connection between the DVD player and the DPR, with the **Coaxial Digital Input 1** ㉜ being the factory default. For information on changing the input assignments for either the component video jacks or the DVD player's audio connection, see page 20.

7. If you have other devices with Y/Pr/Pb or RGB component video outputs, connect the source device to the **Component Video 2 Inputs** ㉔. The audio connections may be to any of the **Video Audio Inputs** ㉞㉟㊱㊷21 or the **Optical** or **Coaxial Digital Inputs** ㉛㉜ 18 20. When using either of the Component Video Inputs, make certain that the audio and video inputs are properly configured in the IN/OUT SETUP menu, as described on page 20.

8. If the component video inputs are used, connect the **Component Video Output** ㉑ to the component video inputs of your TV, projector or display device.

9. If you have a camcorder, video game or other audio/video device that is connected to the DPR on a temporary, rather than permanent basis, connect the audio, video and digital audio outputs of that device to the **Front Panel Inputs** 18 20 21. A device connected to the **Video 5 jacks** 21 is selected as the Video 5 input, and connected to the digital jacks 18 20 it is selected as "Optical 3" or "Coaxial 3" input. (See page 20 for more information on input configuration.)

Video Connection Notes:

- Y/Pr/Pb Component, RGB (see page 17), or Composite video signals may only be viewed in their native formats and will not be converted to the other formats. S-Video signals will be converted to composite signal. The OSD can be viewed on the TV screen in any case, with Video or S-Video input selected on the TV.
- When the component video jacks are used, the on-screen menus will not be visible. You must switch to the standard composite or S-Video input on your TV to view those menus.
- All component inputs/outputs can be used for RGB signals too, in the same way as described for the Y/Pr/Pb signals, then connected to the jacks with the corresponding color.
  But this is only correct as long as only the three RGB video signals are output by the video source, with a sync signal in the "G" signal only, without any sync signal output separately by the source.

SCART A/V Connections

For the connections described above your video device needs RCA (cinch) connectors or/and S-Video connectors for all Audio and Video signals: Any normal video device (Not SVHS or High 8) for only playback needs 3 RCA jacks, VCRs for record and playback even 6 RCA jacks. Any S-Video device (SVHS, High 8) needs 2 RCA (Audio) and 1 S-Video jack (Video), if it´s a playback unit, or 4 RCA (Audio In/Out) and 2 S-Video (Video In/Out) jacks, if it´s a recording VCR.

Many european video devices are equipped with RCA (Cinch) or S-Video jacks only partially, not for all audio and video in/outputs needed as described above, but with a so called Scart or Euro-AV connector (almost rectangular jack with 21 pins, see drawings on next page).

In that case the following Scart to Cinch adapters or cables are needed:

- Units for playback, such as satellite receivers, camcorders, DVD or LD players, need an adapter from Scart to 3 RCA plugs, see fig. 1 (normal video devices) or from Scart to 2 RCA+1 S-Video plugs, see fig. 4 (S-Video devices).
- HiFi VCRs need an adapter from Scart to 6 RCA plugs, see fig. 2 (normal video), or from Scart to 4 Audio+2S-Video jacks, see fig. 5 (S-Video VCR). Read carefully the instruction attached to the adapter to find which of the six plugs is used for the record signal to the VCR (connect with the DPR´s Out jacks) and for the playback signal from the VCR (connect with the DPR´s In jacks). Do not misconnect Audio and Video signals. Don´t hesitate to consult your dealer, if you are uncertain.
- If you use only normal video devices the TV monitor needs an adapter from 3 RCA plugs to Scart (fig. 3) only. If also S-Video devices are used an adapter from 2 RCA+1S-Video plugs to Scart is needed additionally (fig. 6), connected to the SCART input on your TV that is provided for S-Video.

Note that only the video plugs (the "yellow" cinch plug in fig. 3 and the S-Video plug in fig. 6) must be connected to the **TV Monitor Output** ⑫, and the volume on the TV must be reduced to minimum.

Important Note for Adapter Cables:
If the cinch connectors of the adapter you'll use are labeled, connect the Audio and Video "In" plugs with the corresponding Audio and Video "In" jacks on the DPR (and with a VCR connect the "Out" plugs to the "Out" jacks on the DPR). Note that with some adapter types it may be just turned around: If no signal is audible/ visible when the VCR is playing connect the "Out" plugs to the "In" jacks on the DPR and turned around. If the adapter plugs are not labeled in that way, pay attention to the signal flow directions as shown in the diagrams above and in the instruction attached to the adapter. If uncertain, don't hesitate to consult your dealer.

Important Notes for S-Video connections:
1. Only the S-Video In/Out of S-Video devices must be connected to the DPR, NOT both, normal video and S-Video In/Outputs (except the TV, see item below).
When both connections are made, only the S-Video signal will be viewed on the screen.

2. Like most common AV units the DPR does not convert the Video signal to S-Video, only vice versa. Thus both connections must be made from the DPR to the TV if both, Video and S-Video sources, are used, and the appropriate input on the TV must be selected.

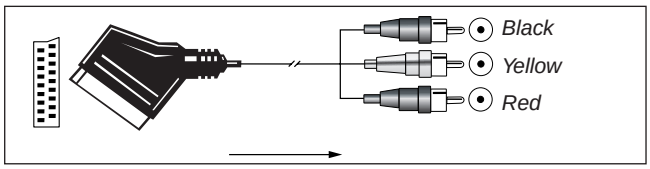


Figure 1: SCART/Cinch-Adapter for playback; signal flow: SCART → Cinch

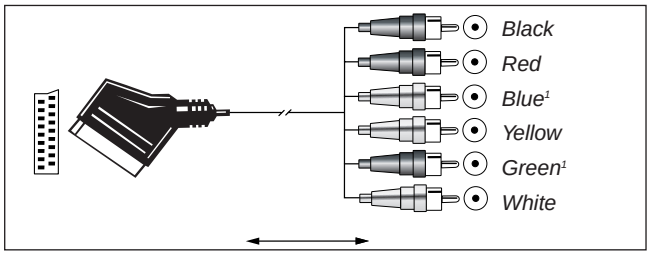


Figure 2: SCART/Cinch-Adapter for record and playback; signal flow: SCART ↔ Cinch

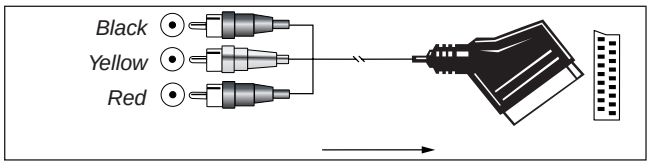


Figure 3: Cinch/SCART-Adapter for playback; signal flow: Cinch → SCART

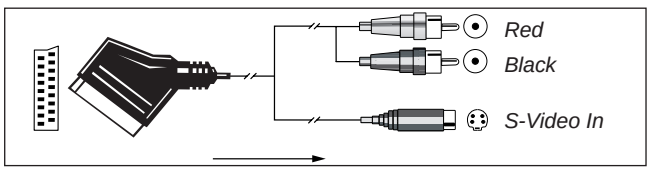


Figure 4: SCART/S-Video Adapter for playback; signal flow: SCART → Cinch

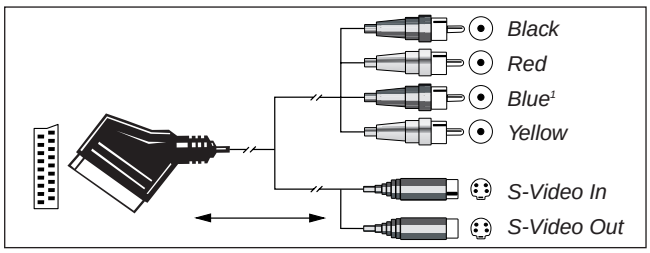


Figure 5: SCART/S-Video Adapter for record and playback; signal flow: SCART ↔ Cinch

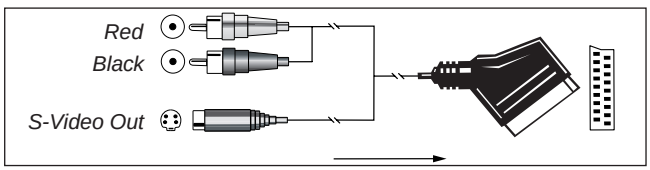


Figure 6: SCART/S-Video Adapter for playback; signal flow: Cinch → SCART

[1] *Also other colours possible, e.g. brown and grey.*

Important Note for the Use of SCART-Cinch Adapters:
When video sources are connected to the TV directly with a SCART cable, specific control signals apart from Audio/Video signals will be fed to the TV. These specific signals are: With all video sources, the signal for automatic input selection that switches the TV automatically to the appropriate input as soon as the video source is started. And with DVD players, the signals automatically turning the TV to 4:3/16:9 format (with 16:9 TVs or with 4:3 TVs with selectable 16:9 format) and turning the RGB video decoder of the TV on or off, depending on the DVD player´s setting. With any adapter cable, these control signals will be lost and the appropriate setting of the TV must be made manually.

Note for RGB signal with SCART:
If you use a unit providing RGB signals on a SCART output (as e.g. most DVD players do) and you want to use that RGB signal, this SCART output must be connected directly to your TV. Although the DPR can switch three-way video signals (like component signals Y/Pb/Pr), most TVs need separate sync signals for RGB (also with SCART) that cannot be switched and provided by the DPR.
RGB signals can be pathed through the DPR only when no separate sync signal is needed (see last "Video Connection Note" on page 16).

System and Power Connections

The DPR 2005 is designed for flexible use with multiroom systems, external control components and power amplifiers.

Main Room Remote Control Extension
If the receiver is placed behind a solid or smoked glass cabinet door, the obstruction may prevent the remote sensor from receiving commands. In this event, the remote sensor of any Harman Kardon or other compatible device, not covered by the door, or an optional remote sensor may be used. Connect the **Remote IR Output** of that device or the output of the remote sensor to the **Remote IR Input** jack ㉔.

If other components are also prevented from receiving remote commands, only one sensor is needed. Simply use this unit's sensor or a remote eye by running a connection from the **Remote IR Output** jack ㉓ to the **Remote IR Input** jack on Harman Kardon or other compatible equipment.

Multiroom IR Link
The key to remote room operation is to link the remote room to the DPR's location with wire for an infrared receiver and speakers or an amplifier. The remote room IR receiver (this can be an optional IR receiver or any other remotable Harman Kardon device in the remote room with IR sensor integrated) should be connected to the DPR via standard coaxial cable. Connect the **Remote IR Output** of the device or of the optional sensor with the **Multiroom IR Input** jack ㉕ on the DPR's rear panel.

If other Harman Kardon compatible source equipment is part of the main room installation, the **Remote IR Output** jack ㉓ on the rear panel should be connected to the IR IN jack on that source device. This will enable the remote room location to control source equipment functions.

NOTE: All remotely controlled components must be linked together in a "daisy chain". Connect the **IR OUT** jack of one unit to the **IR IN** of the next to establish this chain.

Multiroom Audio Connections
The DPR 2005 is equipped with multizone capabilities that allow it to send an audio source to the remote zone that i s different from the one selected for use in the main room. Please note that this capability applies to analog inputs from sources such as the DPR's tuner, tape decks or VCRs. If you wish to use a source such as a DVD or CD player that is normally connected via a digital connection, it is necessary to run an analog connection from the source to the DPR or to use the Main Downmix input option, as explained on page 42.

Depending on your system`s requirement and distance from the DPR to the remote room, three options are available for audio connection:

Option 1: Use high-quality, shielded audio interconnect phono cable from the DPR's location to the remote room. In the remote room, connect the interconnect cable to a stereo power amplifier. The amplifier will be connected to the room's speakers. At the DPR, plug the audio interconnect cables into the **Multiroom Output Jacks** ⑧ on the DPR's rear panel.

Option 2: Place the amplifier that will provide power to the remote location speakers in the same room as the DPR, and connect the **Multiroom Output** jacks ⑧ on the rear panel of the DPR to the audio input of the remote room amplifier. Use the appropriate speaker wire to connect the optional power amplifier to the remote speakers. High-quality wire of at least 2.5 mm^2 is recommended for long multiroom connections.

Option 3: Taking advantage of the DPR's built-in seven-channel amplifier, it is possible to use two of the amplifier channels to power speakers in the remote room. When using this option you will not be able to use the full 7.1-channel capabilities of the DPR in the main listening room, but you will be able to add another listening room without additional external power amplifiers. To use the internal amplifiers to power a remote zone, connect the speakers for the remote room location to the **Surround Back/Multiroom Speaker Outputs** ㊴. Before using the remote room you will need to configure the amplifiers for surround operation by changing a setting in the Advanced Select menu, following the instructions shown on page 40.

NOTE: For all options, you may connect an optional IR sensor (Harman Kardon He 1000) in the remote room to the DPR via an appropriate cable. Connect the sensor's cable to the **Multiroom IR Input** ㉕ on the DPR and use the Zone II remote to control the room volume. Alternatively, you may install an optional volume control between the output of the amplifiers and the speakers.

A-BUS Installation Connections
The DPR is among the very few receivers available today that offers built-in A-BUS Ready® operation. When used with an optional A-BUS keypad or control module, you have all the benefits of remote zone operation without the need for an external power amplifier.

To use the DPR with an approved A-BUS product, simply connect the keypad or module that is in the remote room to the DPR using standard "Category 5" wiring that is properly rated for the inwall use specific to the installation. Terminate the wiring at the receiver end to a standard RJ-45 jack in compliance with the instructions furnished with the A-BUS module.

No further installation or adjustment is needed, as the A-BUS connector on the DPR routes the signals in and out of the keypad to their proper destination for power, signal source and control. The output fed to the A-BUS jack is determined by the DPR's multiroom system, and the menus may be used as is.

RS-232 Connections
The DPR is equipped with an **RS-232 Serial Connection Port** ㊵ that may be used for two purposes. When the port is connected to a compatible, optional, external computer, keypad or control system the DPR is capable of bi-directional communications that enable the external system to control the DPR, and for the DPR to report status and handshake data back to the controller. Use of the RS-232 port for this type of control requires specific technical knowledge, and we recommend that any connection and programming for control be made by a trained installer or technician familiar with the equipment being used. The RS-232 port may also be used as an access point through which the DPR's operating system and surround mode memories may be updated via connection to a compatible computer. At the time that any upgrade is available, instructions for making the connection and installing the upgrade will be available through the Product Support area of the Harman Kardon Web site at www.harmankardon.com.

The physical connection to the DPR's RS-232 port is a standard D-9 connection but to assure compatible and proper operation, specific software commands and pin wiring schemes may be required.

AC Power Connections
This unit is equipped with two accessory AC outlets. They may be used to power accessory devices, but they should not be used with high-current draw equipment such as power amplifiers. The total power draw to the **Unswitched** Outlet ⑱ must not exceed 100 watts, that to the **Switched** Outlet ⑰ 50 watts.

The **Switched** ⑰ outlet will receive power only when the unit is on completely. This is recommended for devices that have no power switch or a mechanical power switch that may be left in the "ON" position.

NOTE: Many audio and video products go into a Standby mode when they are used with switched outlets, and cannot be fully turned on using the outlet alone without a remote control command.

The **Unswitched** ⑱ outlet will receive power as long as the unit is plugged into a powered AC outlet and the **Main Power** Switch ❶ is on.

The DPR features a removable power cord that allows wires to be run to a complex installation so that the unit, itself, need not be installed until it is ready for connection. When all connections described above have been made, connect the AC Power cord to the **AC Power Cord Jack** ⑲.

The DPR draws significantly more current than other household devices such as computers that use removable power cords. For that reason, it is important that only the cord supplied with the unit (or a direct replacement of identical capacity) be used.

Once the power cord is connected, you are almost ready to enjoy the DPR's incredible power and fidelity!

Speaker Selection

No matter which type or brand of speakers is used, the same model or brand of speaker should be used for the front-left, center and front-right speakers. This creates a seamless front soundstage and eliminates the possibility of distracting sonic disturbances that occur when a sound moves across mismatched front-channel speakers.

Speaker Placement

The placement of speakers in a multichannel home-theater system can have a noticeable impact on the quality of sound reproduced.

Depending on the type of center-channel speaker in use and your viewing device, place the center speaker either directly above or below your TV, or in the center behind a perforated front-projection screen.

Once the center-channel speaker is installed, position the left-front and right-front speakers so that they are as far away from one another as the center-channel speaker is from the preferred listening position. Ideally, the front-channel speakers should be placed so that their tweeters are no more than 60cm above or below the tweeter in the center-channel speaker.

They should also be at least 0.5 meter from your TV set unless the speakers are magnetically shielded to avoid colourings on the TV screen. Note that most speakers are not shielded, even with complete surround sets only the Center speaker may be.

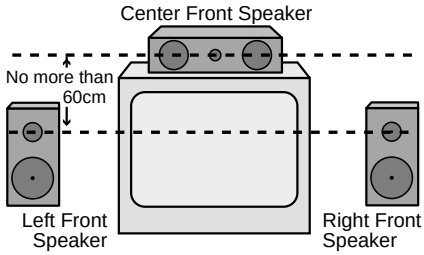
Depending on the specifics of your room acoustics and the type of speakers in use, you may find that imaging is improved by moving the front-left and front-right speakers slightly forward of the center-channel speaker. If possible, adjust all front loudspeakers so that they are aimed at ear height when you are seated in the listening position.

Using these guidelines, you'll find that it takes some experimentation to find the correct location for the front speakers in your particular installation. Don't be afraid to move things around until the system sounds correct. Optimize your speakers so that audio transitions across the front of the room sound smooth.

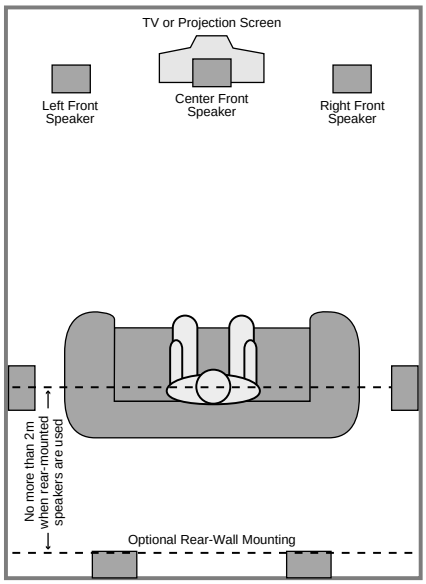
When the DPR is used in 5.1-channel operation, the preferred location for surround speakers is on the side walls of the room, at or slightly behind the listening position. In a 7.1-channel system, both side surround and back surround speakers are required. The center of the speaker should face you (see below).

Rear surround speakers are required when a full 7.1-channel system is installed, and they may also be used in 5.1 channel mode as an alternative mounting position when it is not practical to place the main surround speakers at the sides of the room. Speakers may be placed on a rear wall, behind the listening position. As with the side speakers, the center of the rear surrounds should face you. The speakers should be no more than 2 meters behind the rear of the seating area.

Subwoofers produce largely nondirectional sound, so they may be placed almost anywhere in a room. Actual placement should be based on room size and shape and the type of subwoofer used. One method of finding the optimal location for a subwoofer is to begin by placing it in the front of the room, about 15cm from a wall, or near the front corner of the room. Another method is to temporarily place the subwoofer in the spot where you will normally sit, and then walk around the room until you find a spot where the subwoofer sounds best. Place the subwoofer in that spot. You should also follow the instructions of the subwoofer's manufacturer, or you may wish to experiment with the best location for a subwoofer in your listening room.



A) Front Channel Speaker Installation with Direct-View TV Sets or Rear-Screen Projectors



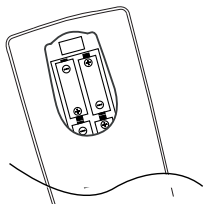
B) The distance between the left and right speakers should be equal to the distance from the seating position to the viewing screen. You may also experiment with placing the left and right speakers slightly forward of the center speaker.
Rear speaker mounting is an alternate location for 5.1 systems. It is required for 7.1 operation.

Once the speakers have been placed in the room and connected, the remaining steps are to program the system configuration memories.

First Turn On

You are now ready to power up the DPR to begin these final adjustments.

1. Make certain that the AC power cord is firmly inserted in to the **AC Power cord Recepticle** ⑲ and plug the cord into an unswitched AC outlet. To maintian the unit's safety rating, DO NOT substitute the power cord for one with lower current capacity.
2. Press the **Main Power Switch** 1 in until it latches and the word "OFF" on the top of the switch disappears inside the front panel. Note that the **Power Indicator** 3 will turn amber, indicating that the unit is in the Standby mode.
3. Remove the protective plastic film from the main front-panel lens. If left in place, the film may affect the performance of your remote control.
4. Install the four supplied AAA batteries in the remote as shown. Be certain to follow the (+) and (–) polarity indicators that are on the top of the battery compartment.



5. Turn the DPR on either by pressing the **System Power Control** 2 or the **Input Source Selector** 15 on the front panel, or via the remote by pressing the **Power On Button** ④, **AVR Selector** ⑥ or any of the **Input Selectors** ⑤ ⑦ on the remote. The **Power Indicator** 3 will turn blue to confirm that the unit is on, and the **Main Information Display** 29 will also light up.

NOTE: After pressing one of the **Input Selector** buttons ⑤ to turn the unit on, press the **AVR Selector** ⑥ to have the remote control the DPR functions.

Using the On-Screen Display

When making the following adjustments, you may find them easier to make via the unit's on-screen display system. These easy-to-read displays give you a clear picture of the current status of the unit and facilitate speaker, delay, input or digital selection you are making.

To view the on-screen displays, make certain you have made a connection from the **Video Monitor Out** jack ⑫ on the rear panel to the composite or S-Video input of your TV or projector. In order to view the DPR's displays, the correct video input must be selected on your video display. Note that the on-screen menus are not available when a component video display is in use.

IMPORTANT NOTE: When viewing the on-screen menus using a CRT-based projector, plasma display or any direct-view CRT monitor or television, it is important that they not be left on the screen for an extended period of time. As with any video display, but particularly with projectors, constant display of a static image such as these menus or video game images may cause the image to be permanently "burned into" the CRT. This type of damage is not covered by the DPR warranty and may not be covered by the projector TV set's warranty.

The DPR has two on-screen display modes, "Semi-OSD" and "Full-OSD." When making configuration adjustments, it is recommended that the Full-OSD mode be used. This will place a complete status report or option listing on the screen, making it easier to view the available options and make the settings on the screen. The Semi-OSD mode uses one-line displays only.

Note that when the full OSD system is in use, the menu selections are not shown in the **Information Display** 29. When the full OSD menu system is used, OSD ON will appear in the **Upper Display Line** 29.

When the semi-OSD system is used in conjunction with the discrete configuration buttons, the on screen display will show a single line of text with the current menu selection. That selection will also be shown in the **Upper or Lower Display Line** 29.

The full OSD system can always be turned on or off by pressing the **OSD** button ㉒. When this button is pressed the MASTER MENU (Figure 1) will appear, and adjustments are made from the individual menus. Note that the menus will remain on the screen for 20 seconds after the latest action was made on the screen menu, then they will "time-out" and disappear from the screen. The time-out may be increased to as much as 50 seconds by going to the ADVANCED SELECT menu, and changing the item titled FULL OSD TIME OUT.

The semi-OSD system is also available as a system default, although it may be turned off by using the ADVANCED SELECT menu. (See page 40). With the semi-OSD system, you may make adjustments directly, by pressing the buttons on the front panel or remote control for the specific parameter to be adjusted. For example, to change the digital input for any of the sources, press the **Digital Select Button** 25 ⑰ and then any of the **Selector buttons** ▲/▼ ⑮ 7 14 on the front panel or remote.

```
      ** MASTER MENU **

→ INPUT SETUP
  AUDIO SETUP
  SURROUND SELECT
  SPEAKER SETUP
  DELAY ADJUST
  CHANNEL ADJUST
  MULTI-ROOM
  ADVANCED
```

Figure 1

System Setup

The DPR 2005 features an advanced memory system that enables you to establish different configurations for speaker "size", component video assignment, digital input, surround mode and crossover frequency for each input source. To ease the speaker setting, the same speaker setting can also be made for all inputs. This flexibility enables you to custom tailor the way in which you listen to each source and have the DPR memorize them. This means, for example, that you may associate different surround modes and analog or digital inputs with different sources, or set different speaker configurations with the resultant changes to the bass management system or the use of the center speaker and/or the Subwoofer. Once these settings are made, they will automatically be recalled whenever you select that input.

The factory default settings for the DPR have all inputs configured for an analog audio input except for the DVD and Video 3 input, where the **Coaxial Digital Input** ㉜ and **Optical Digital Input 1** ㉛ are the default. Once the DSP processing system is used for the first time for any input, the speaker settings will automatically default to "Small" at all positions with the subwoofer set to "LFE." The default setting for the surround modes is "Logic 7 Music" for all analog sources, although Dolby Digital or DTS will automatically be selected as appropriate when a source with digital encoding is in use.

Before using the unit, you will probably want to change the settings for most inputs so that they are properly configured to reflect the use of digital or analog inputs and the surround mode associated with the input. Remember that since the DPR memorizes the settings for each input individually, you will need to make these adjustments for each input used. However, once they are made, further adjustment is only required when system components are changed.

To make this process as quick and as easy as possible, we suggest that you use the full-OSD system with the on-screen menus, and step through each input.

Input Setup

The first step in configuring the DPR is to select an input, i.e. to associate an analog or digital input with each input source in use, e.g. **CD** or **DVD**. Note that once an input is selected, all settings for the Digital Input, Speaker Configuration and

Surround Mode will "attach" themselves to that input and be stored in a non-volatile memory. This means that once made, the selection of an input will automatically recall those settings. For that reason, the procedures described below must be repeated for each input source so that you have the opportunity to custom tailor each source to your specific listening requirements. However, once made they need not be changed again unless you need to alter a setting.

The configuration settings for speaker "size" may be set once and applied to all inputs, or you may select a different speaker configuration for each input using the INDEPENDENT setting, as described on page 23.

When using the full-OSD system to make the setup adjustments, press the **OSD** button 22 once so that the MASTER MENU (Figure 1) appears. Note that the ▶ cursor will be next to the IN/OUT SETUP line. Press the **Set** button 16 to enter the menu and the IN/OUT SETUP menu (Figure 2) will appear on the screen. Press the ◀/▶ buttons 15 until the desired input name appears in the highlighted video, as well as being indicated in the front panel **Input Indicators** 28. If the input will use the standard left/right analog inputs, no further adjustment is needed (except with DVD). When you are scrolling through the list of available inputs, it is possible that you hear a slight click from time to time. This is normal, as it is caused by the relay that is used to switch between the two Component Video Inputs.

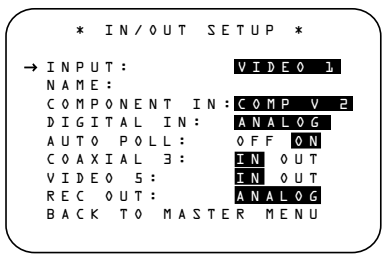


Figure 2

When one of the five Video inputs is selected as the source, you have the option of renaming the input as it appears in the on-screen and front panel messages. This is helpful if you have more than one VCR, if you wish to associate a specific product brand name with the input, or to simply enter any name that will help you to remember which source is being selected.

To change the input name, press the ▲/▼ **Navigation Button** 15 on the remote so that the → cursor is pointing to NAME. Next, press and hold the **Set Button** 16 for a few seconds until a flashing box appears to the right of the colon. Immediately release the **Set Button** 16, as you are now ready to enter the device name.

Press the ▲/▼ **Navigation Button** 15 and note that a complete set of alpha-numeric characters will appear with the start of the alphabet in capital letters followed by the lower-case letters and then numbers and symbols. When you press the ▼ **Navigation Button** 15, a series of symbols and numbers will appear, followed by a reverse list of the alphabet in lower-case letters. Press the button either way until the first letter of the desired name appears. If you wish to enter a blank space as the first character, press the ▶ **Navigation Button** 15.

When the desired character appears, press the ▶ **Navigation Button** 15 and repeat the process for the next letter, and continue until the desired name is entered, up to a maximum of fourteen characters.

Press the **Set Button** 16 to enter the input name into the system memory and to proceed with the configuration process.

If your system includes any sources that are equipped with Y/Pr/Pb component video outputs, the DPR is able to switch them to send the proper signals to your video display. Each of the two **Component Video Inputs** 20 22 may be assigned to any source for added system flexibility. The default setting is for the **Component Video 1 Jacks** 22 to be assigned to the DVD and 6/8-Channel Direct Inputs, with the **Component Video 2 Jacks** 20 assigned to the other inputs. If your system does not include component video at this time, or if you do not need to change these defaults, press the ▼ **Navigation Button** 15 to go to the next setting.

To change the Component Video assignment, first make certain that the → cursor is pointing to the COMPONENT IN line on the menu screen, and then press the ◀/▶ **Navigation Button** 15 until you see the desired input in the highlighted video. The clicking noise that you will hear when the component video inputs is switched is normal, due to the relay used to ensure proper isolation between the two inputs.

When the desired component input has been selected, press the ▼ **Navigation Button** 15 go to the next setting.

If you wish to associate one of the digital inputs with the selected input source, press the ▼ **Button** 15 on the remote while the IN/OUT SETUP menu (Figure 2) is on the screen, and note that the on-screen cursor will drop down to the DIGITAL IN line. Press the ◀/▶ **Buttons** 15 until the name of the desired digital input appears. To return to the Analog input, press the buttons until the word ANALOG appears. When the correct input source appears, press the ▼ button 15 until the ▶ cursor appears next to BACK TO MASTER MENU, and press the **Set Button** 16.

To associate an analog or digital input with the input source currently selected at any time using the discrete function buttons, press the **Digital Input Select Button** 25 17 on the front panel or the remote while the full-OSD is not in use. Within five seconds, make your input selection using the **Selector** buttons on the front panel 7 14 or the ▲/▼ 15 **Buttons** on the remote until the desired digital or analog input is shown in the **Main Information Display** 29 and in the lower third of the video display connected to the DPR. Press the **Set Button** 16 to enter the new input assignment.

Some digital video input sources, such as a cable box or HDTV set-top may change between analog and digital outputs, depending on which channel is in use. The DPR 2005's Auto Polling feature allows you to avoid losing the audio feed when this happens by permitting both analog and digital connections to the same source on the DPR. Digital audio is the default, and the unit will automatically switch to the analog audio if the digital audio stream stops.

In cases where only a digital source is used, you may wish to disable the Auto Polling feature to prevent the DPR from trying to "find" an analog source when the digital source is paused. To turn Auto Polling off for any input, first make certain that the → cursor is pointing to the AUTO POLL line on the menu screen. Next, press the ◀/▶ **Navigation Button** 15 so that OFF is highlighted in reverse video. Repeat the procedure at any time by highlighting ON to restore the Auto Polling feature.

When any changes to the Auto Polling configuration are complete, press the ▼ **Navigation Button** 15 to go to the next setting.

An exclusive Harman Kardon feature is the ability to switch front panel jacks from their normal use as inputs to output connections so that portable recording devices may easily be connected.

On the DPR, the **Coaxial 3 Digital Jack** 20 is normally an input, but it may also be switched to a digital output for use with CD-R/RW decks, MD recorders or other digital audio recorders. To change the jack to an output, press the ▲/▼ buttons 15 while the IN/OUT SETUP menu is on the screen so that the ▶ cursor is next to COAXIAL 3. Then press the ◀/▶ buttons 15 so that the word OUT is highlighted. Note that the **Digital Coax 3 Status Indicator** 19 will turn red, indicating that the jack is now a record output.

The front panel analog **Video 5 Jacks** 21 are normally set as an input for use with camcorders, video games and other portable audio/video products, but they may be switched to an output for connection to portable audio/video recorders. To temporarily switch them to outputs, select the IN/OUT SETUP menu. Press the ▼ button 15 until the on-screen ▶ cursor is pointing to the VIDEO 5 line. Press the ▶ button 15 so that the word OUT is highlighted. Note that the **Input/Output Status Indicator** 19 between the S and Composite video jacks will turn red,

indicating that the analog **Video 5 jacks** 21 are now record outputs.

Note: A signal will be sent to this jack only when the input selected for use by the DPR is digital. Digital signals will be passed through regardless of their format, and which digital input (optical or coax) they are fed from. However, analog signals are not converted to digital, and the format of the signal (e.g., PCM, Dolby Digital or DTS) may not be changed.

Selection of the jacks as an output will remain effective as long as the DPR is on. However, once the unit is turned off, the jack will revert to its normal use as an input when the unit is turned on again.

The REC OUT line gives you the opportunity to select which type of signal is directed to the **Record Output jacks** (associated with the **Tape** 4, **Video 1** 37 and **Video 2** 33 sources). The default setting is ANALOG, which will send the analog signal from any source to all three sets of analog record outputs.

In cases where you wish to have the output of a digital source selected as the record output feed, while the → cursor is next to the REC OUT line, press the ◀/▶ **Navigation Button** 15 so that DSP DOWNMIX appears in highlighted video. When this indication is shown, the DPR will feed a downmixed, analog version of a Dolby Digital or DTS encoded signal to the Record Output jacks (associated with the **Tape** 4, **Video 1** 37 and **Video 2** 33 sources and the Video 5 jacks when they are configured as an output). This enables you to make an analog recording (where permitted by copyright laws) of the soundtrack from a digital source.

As a reminder, to ensure that a signal feed is always available to the record output jacks, we recommend that an analog connection be made as a fallback for all digital sources. This is key with sources such as cable set-tops to ensure that a record feed will continue in the event that the digital audio stream is not available when channels are changed.

When all needed adjustments have been made, press the ▼ **Navigation Button** 15 until the → cursor is next to BACK TO MASTER MENU to continue with the system configuration.

Audio Setup
This menu allows you to configure the tone controls and to turn the upsampling on or off. If you do not wish to change any of those settings at this time, proceed to the next menu screen. However, to make configuration changes to those parameters, make certain that the MASTER MENU is on the screen with the → cursor pointing to the AUDIO SETUP line, and press the **Set Button** 16. The AUDIO SETUP menu (Figure 3) will appear.

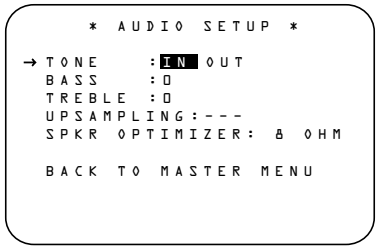


Figure 3

The first line controls whether or not the bass/treble tone controls are in the signal path. The normal default is for them to be in-line, but if you wish to remove them from the circuit for "flat" response, first make certain that the → cursor is pointing to the TONE line on the menu and press the ◀/▶ **Navigation Button** 15 so that OUT is highlighted in reverse video.

If you wish to leave the tone controls in the signal path, the amount off boost or cut for bass and treble may be adjusted by pressing the ▲/▼ **Navigation Button** 15 so that the → cursor is next to the line for the setting you wish to adjust. Next, press the ◀/▶ **Navigation Button** 15 until the desired setting is shown.

This menu also includes a setting to turn the unit's upsampling feature on or off. In normal use, this feature is turned off, which means that digital sources are processed at their native sample rate. For example, a 48kHz digital source will be processed at 48kHz. However, the DPR allows you to upsample the incoming 48kHz signals to 96kHz for added resolution.

To take advantage of this feature, press the ▲/▼ **Navigation Button** 15 so that the → cursor is next to the UPSAMPLING line and press the ◀/▶ **Navigation Button** 15 so that ON is highlighted in reverse video. Note that this feature is only available for the Dolby Pro Logic, Dolby Pro Logic II and Pro Logic IIx Music and Movie modes.

Speaker Optimizer
The Speaker Optimization function is critical to ensure optimal performance of the DPR, as it tells the digital amplifier section how to best match its operation to your specific speakers. Note that this adjustment is electronic, not electrical, and unlike the "8-ohm/4-ohm" switches on older analog amplifiers, you do not need to turn the DPR off to change the setting. However, we do suggest that you do not have any program material playing through the DPR when the setting is changed.

Before making this adjustment you will need to find the impedance specification for your speakers. This information is often found on a label attached to the speaker, and it is usually shown in the owner's manual that came with your speakers. If you cannot find the information for your speakers, consult the manufacturer's Web site or customer service department.

In cases where the speakers in a system have different impedance ratings, such as 8 ohms for the front left/right and center speakers and 6 ohms for the surround speakers, use the setting for the front speakers, as they are used most often for all types of program material.

If you cannot determine the speaker's impedance, there is no harm in using the factory default setting of 8 ohms, as most home speakers are in that range. However, if it appears that your system's performance in the highfrequency range sounds constricted at high volume levels, you may want to experiment with the 6-ohm or 4-ohm setting.

If your speakers match the factory default setting of 8 ohms, no further adjustment is needed, and you may exit this menu by pressing the ▼ **Navigation Button** 15 so that the → cursor is pointing to the BACK TO MASTER MENU line and then press the **Set Button** 16. If you do need to change the setting, press the ◀/▶ **Navigation Button** 15 until the desired impedance setting appears.

When all desired changes have been made on this menu, press the ▲/▼ **Navigation Button** 15 so that the → cursor is next to the BACK TO MAIN MENU line and press the **Set Button** 16.

Speaker Setup
This menu tells the DPR which type of speakers are in use. This is important as it adjusts the settings that decide whether your system will use the "5-channel" or "6-channel/7-channel" modes, as well as determining which speakers receive low-frequency (bass) information.

For each of these settings use the LARGE setting if the speakers for a particular position are traditional full-range loudspeakers.
Use the SMALL setting for smaller, frequency-limited satellite speakers that do not reproduce sounds below 200Hz. Note that when "small" speakers are used, a subwoofer is required to reproduce low-frequency sounds. Remember that the "large" and "small" descriptions do not refer to the actual physical size of the speakers, but to their ability to reproduce low-frequency sounds. If you are in doubt as to which category describes your speakers, consult the specifications in the speakers' owner's manual, or ask your dealer.

This menu screen also allows you to enter the settings for the DPR's Quadruple Crossover feature that allows a different crossover point to be used for the front left/right, center, surround and surround back speakers. In systems where full-range or tower speakers are used for the front soundstage or where different brands or models are in use at the various speaker positions, this feature allows you to custom tailor the bass management and redirection circuits with a precision not previously possible.

At last, this menu also makes you chose if the speaker setting will be the same for each input source (GLOBAL), or will be set differently for each input (INDEPENDENT).

Notes:

- When "Independent" is selected for the speaker settings (see below), they need to be made for each input individually and you can determine which speaker should be used depending on the input source selected. So it´s possible e.g. to turn off the Center and/or the Sub with any music source selected and to use them with any movie input source.
- With the currently selected input all speaker settings will be copied to all other surround modes (as far as speakers are used with them) and need not be repeated when another surround mode is selected with that input.

First select any of the DTS Neo:6 modes as with them all speakers and all speaker modes are available. It is easiest to select these modes directly, without the on-screen display, so press the **OSD** button 22 to turn the on-screen display off if it is still visible. Then press the **DTS Neo:6** button 30 on the remote.

It is easiest to enter the proper settings for the speaker setup through the SPEAKER SETUP menu (Figure 4). So press the **OSD Button** 22 to bring up the MASTER MENU (Figure 1), and then press the ▼ **Button** 15 twice so that the cursor is on the SPEAKER SETUP line. At this point, press the **Set Button** 16 to bring up the SPEAKER SETUP menu (Figure 4).

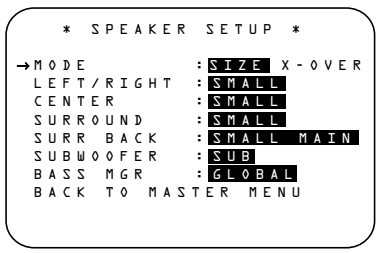


Figure 4

The first line of the SPEAKER SETUP menu (Figure 4) allows you to switch the menu to change either the underlying speaker size setting or the exact crossover point used for that speaker group if set to "Small". For the first pass through the menu, leave the setting at its default option of SIZE, and then proceed as outlined below. Once the speaker choices have been set you may wish to return to this line to change the option so that the crossover settings may be adjusted.

1. Before you start the speaker setting, you should determine if you want all inputs being configured with the same speaker size setting (GLOBAL) or if all inputs should be configured individually (INDEPENDENT).

To configure all inputs for "Global" or "Independent" press the ▲ **Button** 15 twice so that the cursor is next to the BASS MGR line.

This setting allows you to use the same speaker configuration for all inputs, or to have different settings for each input. In most cases the factory default setting of GLOBAL will be appropriate, as most listeners do not need to have individualized speaker settings. However, some listeners, particularly those with full-range front speakers that are used for both movies and music may prefer that different speaker settings be used when listening to music through a CD player as opposed to a movie from a DVD player, VCR or cable/satellite set top.

If you wish to customize the speaker size individually to each input, make certain that the cursor is on the BASS MGR line and press the ◀/▶ **Buttons** 15 so that INDEPENDENT appears in highlighted video. When this setting is entered all speaker size settings will be shown with their factory default size in the menu and all other inputs will turn to INDEPENDENT too. Now you should enter the speaker size settings prefered for the input selected, as described below. Remember that in this case the size settings just entered will apply to the current input ONLY, and you will need to go back to the IN/OUT menu to select another input, and then return to this menu page again to change the settings for the next input. Repeat the procedure for any input where you wish to have a set of speaker configuration different from the default settings.

2. Begin the speaker size setup process by making certain that the cursor is pointing toward the LEFT/RIGHT line, which sets the configuration for the front left and right speakers. If you wish to make a change to the front speakers' configuration, press the ◀/▶ **Buttons** 15 so that either LARGE or SMALL appears, matching the appropriate description from the definitions shown above.

When SMALL is selected, low-frequency front channel sounds will be sent only to the subwoofer output. If you choose this option and there is no subwoofer connected, you will not hear any low-frequency sounds with front channel signals.

When LARGE is selected, a full-range output will be sent to the front left and front right outputs. Depending on the choice made in the SUBWOOFER line in this menu (see below), the front left and right bass information may also be directed to the subwoofer.

NOTE: When the front speakers are set to the LARGE option and the surround mode is set to "Surround Off", or pure two-channel stereo, when an analog signal source is present it will be routed directly from the input to the volume control without being digitized or processed. If you have full-range front speakers and wish to remove all digital processing from the circuit path, select this configuration. If you wish to set this option for use with only one input, such as a CD player that uses an external DAC or an optional, external phono preamp, you must choose the INDEPENDENT setting on the BASS MGR line at the bottom of this menu so that only those inputs where the analog bypass is desired will be routed in this fashion, while other analog inputs such as a VCR or cable box will be digitized for surround processing.

Important Note: When a speaker set with a subwoofer and two front satellites connected to the Sub´s speaker outputs is used, the Sub´s inputs must be connected to the **Front speaker outputs** 14 and LARGE must be selected for the front speakers (and NONE for the subwoofer, see below).

3. When you have completed your selection for the front channel, press the ▼ **Button** 15 on the remote to move the cursor to CENTER.

4. Press the ◀/▶ **Buttons** 15 on the remote to select the option that best describes your center speaker, based on the speaker definitions shown below.

When SMALL is selected, low-frequency center channel sounds will be sent to the Fronts, if they are set to LARGE and Sub is turned off (see below). When Sub is on, low frequency center channel sounds will be sent to the subwoofer only.

When LARGE is selected, a full-range output will be sent to the center speaker output, and NO center channel signal will be sent to the subwoofer output (except when the Pro Logic II Music mode is in use).

NOTE: If you choose Logic 7 as the surround mode for the particular input source for which you are configuring your speakers, the DPR will not make the LARGE option available for the center speaker. This is due to the requirements of Logic 7 processing, and does not indicate a problem with your receiver.

When NONE is selected, no signals will be sent to the center-channel output. The receiver will operate in a "phantom" center channel mode. Center-channel information will be sent to the left and right front channel outputs and the center channel bass will be sent to the subwoofer output when SUBL/R+LFE is selected in the SUBWOOFER line in this menu (see below). This mode is needed if no Center speaker is used. Note that when the Logic 7 Cinema or Enhanced surround modes are selected a Center speaker must be used, the Logic 7 Music mode works well without a Center too.

5. When you have completed your selection for the center channel, press the ▼ **Button** 15 on the remote to move the cursor to SURROUND.

6. Press the ◀/▶ **Buttons** 15 on the remote to select the option that best describes the surround speakers in your system based on the speaker definitions shown on page 22.

When SMALL is selected, with all digital surround modes low-frequency surround channel sounds will be sent to the Fronts when Sub is turned off or to the subwoofer output when Sub is on. With any analog surround mode the rear bass feed depends on the mode selected and the setting of the Sub and front speakers.

When LARGE is selected, a full-range output will be sent to the surround channel outputs (with all analog and digital surround modes), and, except with Hall and Theater modes, NO surround channel bass will be sent to the subwoofer output.

When NONE is selected, surround-sound information will be split between the front left and front right outputs. For optimal performance when no surround speakers are in use, the VMAx mode should be used.

When you are using surround back speakers with your system, press the ▼ **Button** 15 on the remote to move the cursor to SURR BACK. This line serves two functions in that it not only configures the setting for the surround back channels when they are present, it also tells the DPR's processing system to configure the unit for either 5.1 or 6.1/7.1 operation.

Press the ◀/▶ Buttons on the remote to select the option that best describes the speakers in use at the left and right back surround positions based on the definitions on this page:

When NONE is selected, the system will adjust so that only 5.1-channel surround processing/decoding modes are available and the surround back amplifier channels will not be used. When this is the case for your system you may wish to take advantage of the availability of this amplifier channel pair for use in powering a second set of speakers that have their source selected by the DPR's multiroom control system. See page 42 for more information.

When SMALL is selected the system will adjust so that the full complement of 6.1/7.1 surround processing/decoding modes are available, and low-frequency information below the crossover point (identical with the one for the surround speakers) will be sent to the subwoofer output when the subwoofer is set to ON, or to the Front LEFT/RIGHT when subwoofer is set to OFF.

When LARGE is selected the system will adjust so that the full complement of 6.1/7.1 surround processing/decoding modes are available, and a full-range signal will be sent to the surround back channels, with no low-frequency information sent to the subwoofer output.

7. When you have completed your selection for the surround channels, press the ▼ **Button** 15 on the remote to move the cursor to SUB-WOOFER.

8. Press the ◀/▶ **Buttons** 15 on the remote to select the option that best describes your system.

The choices available for the subwoofer position will depend on the settings for the other speakers, particularly the front left/right positions.

If the front left/right speakers are set to SMALL, the subwoofer will automatically be set to SUB, which is the "on" position.

If the front left/right speakers are set to LARGE, three options are available:

- If no subwoofer is connected to the DPR, press the ◀/▶ **Buttons** 15 on the remote so that NONE appears in the on-screen menu. When this option is selected, all bass information will be routed to the front left/right "main" speakers.
- If a subwoofer is connected to the DPR, you have the option to have the front left/right "main" speakers reproduce bass frequencies at all times, and have the subwoofer operate only when the DPR is being used with a digital source that contains a dedicated Low Frequency Effects, or LFE soundtrack. This allows you to use both your main and subwoofer speakers to take advantage of the special bass created for certain movies. To select that option press the ◀/▶ **Buttons** 15 on the remote so that SUB (LFE) appears in the on-screen menu.
- If a subwoofer is connected and you wish to use it for bass reproduction in conjunction with the main front left/right speakers, regardless of the type of program source or Surround mode you are listening to, press the ◀/▶ **Buttons** 15 on the remote so that SUB L/R+LFE appears in the on-screen menu. When this option is selected, a full-range signal will be sent to the front left/right "main" speakers. The subwoofer will receive the front left and right bass frequencies under the crossover frequency selected in another setting on this menu, as described below, and also the LFE soundtrack.

9. When all initial speaker "size" settings have been made, you now have the option to take advantage of the DPR's Quadruple Crossover system, which allows individual crossover settings to be made for each speaker grouping set to "Small". The low-frequency crossover point is set by the design of your speakers. It is defined as the frequency which is the lowest possible frequency the speaker is capable of reproducing. Before making any changes to the settings for the crossover point we suggest that you find the crossover point for the speakers in each of the four groupings, front left/right, center, surround and surround back by looking at the specifications page of the speaker's owner's manual, by getting that information from the manufacturer's Web site, or by contacting your dealer or the manufacturer's customer service department. You will need this figure to accurately configure the next group of settings.

The factory default setting for all speaker positions is 100Hz. If that setting is acceptable for all channels, then no adjustments are needed and you may skip this section. However, should you wish to change one of the settings, please proceed by pressing the ▲ **Button** 15 so that the cursor moves back up to the top of the list of setting options. Press the ◀/▶ **Buttons** 15 so that X-OVER is highlighted and the menu data will change to the screen shown in Figure 5.

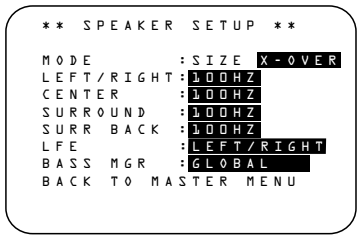


Figure 5

To change the setting for any of the four speaker groups Left/Right, Center, Surrounds or Surround Back, press the ▲/▼ **Buttons** 15 until the cursor is next to the line where you wish to make a change and then press the ◀/▶ **Buttons** 15 until the desired setting appears. The available choices at which point low-frequency information will be sent to the subwoofer (or to the Front Left/Right speakers in case subwoofer is set to OFF), rather than to the speaker channel, are 40Hz, 60Hz, 80Hz, 100Hz, 120Hz and 200Hz. Pick the choice that is identical to the information for the speakers, or if an exact match is not possible, pick the closest choice that is ABOVE the speaker's lowfrequency limit to avoid the creation of a low-frequency "hole" where your system will have no bass information.

In cases where LARGE has been selected as the front channel speaker option and LFE+L/R has been selected as the subwoofer option, the front channel sound information below the crossover point selected for the L/R front speakers (when fronts are set to "Small") will be sent to BOTH the front channel speakers and the subwoofer.

When all speakers are set to LARGE the crossover point for the fronts (selectable when they are set to "Small") will affect the LFE signal and the bass support for the front speakers by the sub (when the sub is set to L/R+LFE, see above) only. In that case the default value "100Hz" should be kept or selected for the crossover point for the L/R fronts (selectable when they are "Small") as it´s indicated (and marked by *) behind the LEFT/RIGHT line in the speaker setup menu when the X-OVER option is selected.

The setting for the crossover point for the LFE channel, which is created to provide specific low-frequency information in many movies with digital soundtracks, may be set to match the crossover for any of the four speaker groups.

Since the crossover point commonly used in the creation of the LFE channel is 120Hz, we recommend that you select the speaker group whose crossover point is closest to 120Hz. To do this, press the ▲/▼ **Navigation Button** 15 until the cursor is next to the LFE line, and then press the ◀/▶ **Navigation Button** 15 until the name of the speaker group with the desired crossover frequency appears. Of course, you may also experiment with different settings to find the one that provides the smoothest and most complete bass response in your particular listening environment. When all crossover settings have been made, or in those cases where none are needed, press the ▼ **Navigation Button** 15 so that the cursor is next to the BASS MGR line to make the final setting on this menu.

This setting allows you to use the same speaker configuration and crossover settings for all inputs, or to have different settings for each input. In most cases, the factory default setting of GLOBAL will be appropriate, as most systems do not need individual speaker settings. However, when full-range front speakers are used for both movies and music, different bass management settings may be used when listening to music through a CD player as opposed to a movie from a DVD player, VCR or cable/satellite set-top.

To customize the speaker-size configurations to each input, make certain that the MODE line of the SPEAKER SETUP menu is set to SIZE, and that the cursor is on the BASS MGR line. Press the ◀/▶ **Navigation Button** 15 so that INDEPENDENT appears in highlighted video. When this choice is entered by exiting the menu, the settings just entered will apply to the current input ONLY, and you will need to go back to the IN/OUT menu to select another input, and then return to this menu page to change the settings for the next input. Repeat the procedure for any input where you wish to have a different set of speaker configuration and crossover settings.

NOTE: The inidependent feature allows you to select a different speaker size configuration (Large, Small or None, as appropriate) for each input source. However, the individual crossover point setting may only be set once, and the selection made during the initial setup will be used for all inputs, regardless of any changes made to the "Large" or "Small" settings for the speaker groups attached to any input. The reason is that while you may prefer different settings for the bass redirection (that is, which signals go to the subwoofer or the speaker group), the actual crossover point remains the same since the actual loudspeakers themselves remain the same regardless of any other setting.

10. When all speaker selections have been made, press the ▼ **Button** 15 until the cursor is next to the BACK TO MASTER MENU line and press the **Set Button** 16 to return to the Main menu.

11. The Speaker Configuration may also be changed at any time without using the full-OSD on-screen menu system by pressing the **Speaker Selector** 6 on the front panel or 38 on the remote control. Once the button is pressed, FRONT SPEAKER will appear in both the lower third of the video display and the **Main Information Display** 29.

Within five seconds, either press the ◀/▶ buttons 7 14 on the front panel or the ▲/▼ buttons 15 on the remote to select a different speaker position, or press the **Set** Button 12 16 to begin the adjustment process for the front left and right speakers.

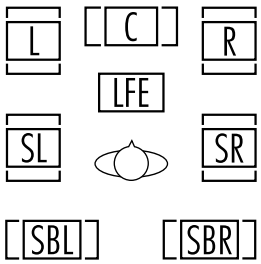
When the **Set** button 12 16 has been pressed and the system is ready for a change to the front speaker setting, the on-screen display and **Main Information Display** 29 will read FRONT LARGE or FRONT SMALL depending on the current setting. Press the ◀/▶ buttons 7 14 on the front panel or the ▲/▼ buttons 15 on the remote until the desired setting is shown, using the instructions for "large" or "small" shown earlier, then press the **Set** button 12 16.

If another speaker position needs to be changed, press the ◀/▶ buttons 7 14 on the front panel or the ▲/▼ buttons 15 on the remote to select a different speaker position, press the **Set** button 12 16 and then the ◀/▶ buttons 7 14 on the front panel or the ▲/▼ buttons 15 on the remote until the correct speaker setting is shown and press the **Set** button 12 16 again to confirm the selection.

To assist in making these settings, the icons in the **Speaker/Channel Input Indicators** 24 will change as the speaker type is selected at each position. When only the inner icon box is lit, the speaker is set for "small." When the inner box and the two outer boxes with circles inside them are lit, the speaker is set for "large." When no indicator appears at a speaker location, that position is set for "none" or "no" speaker.

Note: These icons are available only when making setup changes without the use of the full OSD mode.

As an example, in the Figure below, all speakers are set for "large," and a subwoofer is set.



Surround Setup

Once the speaker setup has been completed, the next step for that input is to set the surround mode you wish to use with that input. Since surround modes are a matter of personal taste, feel free to select any mode you wish – you may change it later. The Surround Mode chart on page 31 may help you select the mode best suited to the input source selected. For example you may select Dolby Pro Logic II or Logic 7 for most analog inputs and Dolby Digital for inputs connected to digital sources. In the case of inputs such as a CD Player, Tape Deck or Tuner, you may wish to set the mode to Stereo, if that is your preferred listening mode for standard stereo sources, where it is unlikely that surround encoded material will be used. Alternatively, the 5 Channel Stereo or Logic 7 Music mode may also be a good choice for stereo-only source material.

It is easiest to complete the surround setup using the full-OSD on-screen menus. From the MASTER menu (Figure 1), press the ▲/▼ buttons 15 until the ▶ cursor is next to the SURROUND SELECT menu. Press the **Set Button** 16 so that the SURROUND SELECT menu (Figure 6) is on the screen.

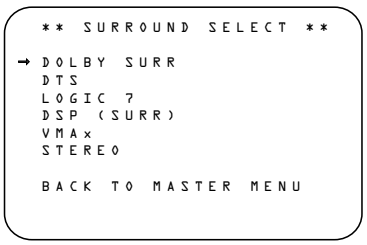


Figure 6

Each of the option lines on this menu (Figure 6) selects the surround mode category, and within each of those categories there will be a choice of the specific mode options. The choice of modes will vary according to the speaker configuration in your system.

When the SURR BACK line of the SPEAKER SETUP menu (Figure 5) is set to NONE the DPR will be configured for 5.1-channel operation, and only the modes appropriate to a five-speaker system will appear.

When the SURR BACK line of the SPEAKER SETUP menu (Figure 5) is set to SMALL or LARGE the DPR will be configured for 6.1/7.1-channel operation, and additional modes such as Dolby Digital EX, Dolby Pro Logix IIx and 7 STEREO or Logic 7 7.1 will appear, as they are only available when seven main speakers are present. In addition, the modes DTS ES (Discrete) and DTS+NEO:6 (DTS ES Matrix) available in the DPR will not appear unless a digital source is playing the correct bitstream.

Note: When a Dolby Digital or DTS source is selected and playing, the DPR will select the appropriate surround mode automatically, no matter which surround mode was selected for that input as default. Then no other surround modes will be available, except VMAx with Dolby Digital recordings and all Pro Logic II modes with Dolby Digital 2 channel (2.0) recordings (see page 36).

To select the mode that will be used as the initial default for an input, first press the ▲/▼ **buttons** 15 until the on-screen cursor is next to the desired mode's master category name. Next, press the **Set Button** 16 to view the submenu. Press the ◀/▶ **Buttons** 15 to scroll through the available choices, and then press the ▼ **Button** 15 so that the cursor is next to BACK TO MASTER MENU to continue the setup process.

On the Dolby menu (Figure 7), the selection choices include Dolby Digital, Dolby Pro Logic II and Dolby Pro Logic IIx Movie and Music and Dolby Virtual Speaker Reference and Wide. A complete explanation of these modes is found on Page 29. The Dolby Digital EX and Dolby Pro Logic IIx mode are only available when the system is set for 6.1/7.1 operation by configuring the Surround Back speakers to "Small" or "Large" as described on page 22.
When a disc is playing that contains a special "flag" signal in the digital audio data stream, the EX mode will be selected automatically. It may also be selected using this menu or through the front panel or remote controls. A complete explanation of these modes is found on page 31.

Note that when the Dolby Digital mode is selected there are additional settings available for the Night mode that are associated with the surround mode only, not with the input. That's why these settings must be made only once, not with each input in use. They are described later in the next main chapter (see below).

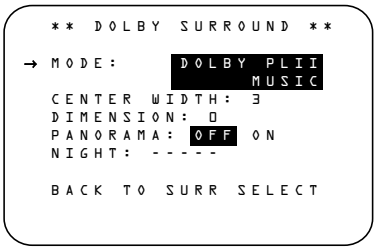


Figure 7

When the → cursor is pointing to the MODE line, press the ◀/▶ **Navigation Buttons** 15 to select the desired Dolby surround mode, again remembering that the choice of available modes will vary with the type of program material being played and the number of speakers in your system configuratioin.

When Dolby Pro Logic II Music or Dolby Pro Logic IIx Music is selected as the listening mode, three special settings are available to tailor the sound field to your listening room environment and your individual taste and preferences. (When other Dolby Surround modes are selected, dotted lines will indicate that these settings are not active.)

- Center Width: This setting adjusts the balance of the vocal information in the front soundstage between the center and front left/right speakers. The lower settings spread the center channel sound more broadly into the left and right channels. A higher number (up to "7") produces a tighter center channel presentatioin.
- Dimension: This setting alters the perceived depth of the surround field by creating a shallower presentation that appears to move sounds toward the front of the room, or a deeper presentation that appears to move the center of the sound field toward the back of the room. The setting of "0" is a neutral default, with the range of adjustment shown as "R-3" for a deeper, rear-oriented sound to "F-3" for a shallower, front-oriented sound.
- Panorama: Switch this setting on or off to add an enveloping wrap-around presentation that increases the perception of sound along the sides of the room.

To change these parameters, press the ▲/▼ **Navigation Buttons** 15 while the DOLBY SURROUND menu is on the screen until the → cursor is pointing to the line on the menu with the parameter you wish to change. Then, press the ◀/▶ **Navigation Buttons** 15 to alter the setting to your taste.

On the DTS menu, the selection choices made with the ◀/▶ **Buttons** 15 on the remote are determined by a combination of the type of DTS program material in use and whether the 5.1 or 6.1/7.1 speaker output configuration is in use.

When the 5.1 configuration is in use the DPR will automatically select the 5.1 version of DTS processing when a DTS data stream is received. When the 6.1/7.1 mode is selected, the DTS-ES Discrete mode will automatically be activated when a DTS source with the ES Discrete "flag" is in use and the DTS-ES Matrix mode will be activated when an ES-Matrix encoded audio track is received. In both cases the appropriate surround mode will be indicated in the **Lower Display Line** 29 in the front panel display and on the screen. When a non-ES DTS disc is in use, when the 6.1/7.1 mode is chosen the unit automatically will select the DTS + NEO:6 mode to create a full eight-speaker surround mode. See page 31, 35 for a complete explanation of the DTS modes.

When an analog or two-channel PCM source is playing, the DTS Neo:6 modes are available, which creates a three-, five- or six-channel presentation of the sound. The exact modes available will depend on the number of speaker positions established in the SPEAKER SETUP menu. (See page 22 to configure the system for the number and type of speakers in your system).

On the Logic 7 menu, the selection choices made with the ◀/▶ **Buttons** 15 on the remote are determined by whether the 5.1 or 6.1/7.1 speaker output configuration is in use. In either case, the selection of a Logic 7 mode enables Harman Kardon's exclusive Logic 7 processing to create fully enveloping, multichannel surround from either two-channel Stereo or Matrix-encoded programming such as VHS cassettes, laserdiscs or television broadcasts produced with Dolby surround.

In the 5.1 configuration you may select the Logic 7/5.1 Music, Cinema or Enhanced modes. They work best with two-channel music, surround-encoded programs or standard two-channel programming of any type, respectively. When the 6.1/7.1 mode is selected, the Logic 7/7.1 Music or Cinema modes are available, but the output will be in a full eight-channel sound field. Note that the Logic 7 modes are not available when either Dolby Digital or DTS Digital soundtracks are in use.

On the DSP (SURR) menu, the selection choices made with the ◀/▶ **Buttons** 15 on the remote select one of the DSP surround modes that are designed for use with two-channel stereo programs to create a variety of sound field presentations. The choices available are Hall 1, Hall 2, Theater, VMAx Near and VMAx Far. The Hall and Theater modes are designed for multichannel installations, while the two VMAx modes are optimized for use in delivering a full surround field when only the front left and front right speakers are installed. See pages 31 and 32 for a complete explanation of the DSP surround modes. Note that the Hall and Theater modes are not available when a Dolby Digital or DTS soundtrack is played.

On the STEREO menu, the selection choices made with the ◀/▶ **Buttons** ⑮ on the remote may either turn the surround processing off for a traditional two-channel stereo presentation, or select 5 Stereo or 7 Stereo depending on whether the 5.1 or 6.1/7.1 output is in use. The latter modes feed the stereophonic input signal to both front speakers, to the rear speakers and to both surround back speakers (if in use), while the monophonic signal parts are spread over all speakers, also the Center. See page 32 for a complete explanation of the 5 Stereo and 7 Stereo modes.

To listen to an analog stereo source without any bass management, so that the left and right front speakers receive a full-range signal, straight through from the input gain section to the volume control, press the ◀/▶ **Navigation Button** ⑮ so that SURROUND OFF appears in the highlighted video. To listen to two-channel analog sources while taking advantage of the DPR's bass-management system, press the ◀/▶ **Navigation Button** ⑮ so that SURROUND OFF+DSP appears in the highlighted video.

After the selections are made in the Dolby, DTS, Logic 7, DSP (Surround) or Stereo menus, press the ▲/▼ buttons ⑮ so that the cursor moves to the BACK TO SURR SELECT line and presss the **Set Button ⑯.**

Adjustments for Other Inputs
After one input has been adjusted for analog or digital input, speaker type and surround mode, return to the INPUT SETUP line on the MASTER menu and enter the settings for each input that you will use. In most cases, only the digital input and surround mode may be different from one input to the next, while the speaker type will usually be the same (inputs set to GLOBAL). But if prefered you can also select different speaker types or turn speakers on or off individually for each input in use.

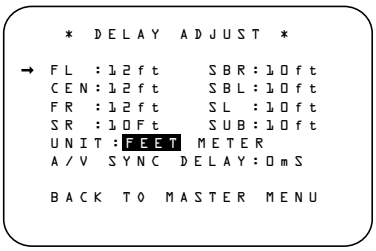
Delay Settings
Due the different distances between the listening position for the front channel speakers and the surround speakers, the amount of time it takes for sound to reach your ears from the front or surround speakers is different. You may compensate for this difference through the use of the delay settings to adjust the timing for the specific speaker placement and acoustic conditions in your listening room or home theater.

To re-synchronize the front, center and surround channels at first measure and note the distance from the listening/viewing position to the front, center, surround and surround back (if any) speakers in meters.

In addition to adjusting the delay time for each individual speaker position, the DPR is among the few A/V receivers that allows you to adjust the delay for the combined output of all speakers as a group. This feature is called A/V Sync Delay; it allows you to compensate for delays to the video image that may be caused by the processing in products such as digital video displays, video scalers, digital cable or satellite systems, or personal video recorders. With proper adjustment of the setting for A/V Sync Delay, you can eliminate the loss of lip sync that may be caused by digital video applications.

The Delay setting for all speakers configured for your system will be available only (with 5.1 or with 6.1/7.1 configuration) when any Dolby surround mode is selected. In addition they are selectable with these modes only, with all other modes the delay times are fixed.
Note that the Delay settings are "Global" for all inputs, using those Dolby modes, and need not to be repeated with any input.

To start with the delay settings at first select any input associated with such a Dolby mode. Next, continue within the MASTER MENU (Figure 1). If the system is not already at that point, press the **OSD** button ㉒ to bring up the master menu. Press the ▼ **Button** ⑮ three times or until the on-screen ▶ cursor is pointing at the DELAY ADJUST line. Press the **Set Button** ⑯ to call up the menu.



Next move the ▶ cursor to the UNIT line and select the unit for distances you prefer to enter, feet or meter. Then move the ▶ cursor to the FL line where the first adjustment is made. Now press the ◀/▶ **Buttons** ⑮ until the distance from the front left speaker to the preferred listening position is entered. Next press the ▼ **Button** ⑮ once to move to the next line.

Now the ▶ cursor will be at the CEN line so that the delay for the center speaker may be set. Press the ◀/▶ **Buttons** ⑮ until the distance from the main listening position to the center speaker is entered. Repeat the procedure for all active speaker positions by pressing the ▼ **Button** ⑮ again and use the ◀/▶ **Buttons** ⑮ to change the setting. Remember that this last adjustment will only be needed when you have surround back speakers installed and Dolby Digital chosen as the surround mode.

When the delay time for all speaker positions has been set you may return to the master menu by pressing the ▲/▼ **Navigation Button** ⑮ until the → cursor is pointing to BACK TO MASTER MENU and then pressing the **Set Button** ⑯. However, if you have a digital video source or a digital video display that causes lack of lip sync you may use the A/V Sync adjust feature to delay the audio signal as it is sent to all channels (as opposed to the individual settings) so that the picture and sound are brought back together. We recommend that this adjustment be made using the direct access controls on the remote, as shown below. That enables you to see the image while making the adjustment; however, you may also adjust it here using the menu system.

To adjust the A/V Sync delay, press the ▲/▼ **Navigation Button** ⑮ so that the → cursor is pointing to the A/V Sync Delay line on the menu and then press the ◀/▶ **Navigation Button** ⑮ to delay the sound sufficiently so that it matches the on-screen video.

Note that the A/V Sync delay setting is unique to each video input source, so you may enter a different set-ting to compensate for the differences between any product attached to the Video 1, 2, 3 or 4 inputs.

When the delay settings are complete, press the ▼ **Button** ⑮ once so that the cursor is next to the BACK TO MASTER MENU line and press the **Set Button** ⑯ to return to the MASTER menu.

Note that the delay settings may also be adjusted at any time when the Dolby Digital or Dolby Pro Logic II modes are in use by pressing the **Delay** button on the remote ㊱. Then press the ▲/▼ ⑮ buttons on the remote to select the Center or Rear channels for adjustment, followed by a press of the **Set** button ⑯. Next, press the ▲/▼ buttons ⑮ on the remote until the desired figure appears in the **Main Information Display** 29 and press the **Set button** ⑯ twice to confirm the setting and return to the normal display.

Night Mode Settings
The Night mode is a feature of Dolby Digital that uses special processing to preserve the dynamic range and full intelligibility of a movie sound track while reducing the peak level. This prevents abruptly loud transitions from disturbing others, without reducing the sonic impact of a digital source. Note that the Night mode is only available when the Dolby Digital surround mode is selected.

To adjust the Night mode setting from the menu press the **OSD** Button ㉒ so that the MASTER menu appears. Then press the ▼ button ⑮ once and press **Set** ⑯ to select the SURROUND SETUP menu. Press **Set** ⑯ to select the DOLBY menu (see fig. 7a).

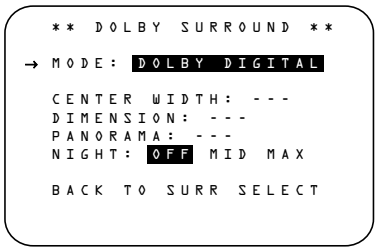


Figure 7a

To adjust the Night mode setting, make certain that the ▶ cursor is on the NIGHT line of the DOLBY menu. Next, press ◀/▶ **Buttons** ⑮ to choose between the following settings.

OFF: When **OFF** is highlighted, the Night mode will not function.

MID: When **MID** is in the highlighted video, a mild compression will be applied.

MAX: When **MAX** is in the highlighted video, a more severe compression algorithm will be applied.

When you want to use the Night mode feature, we recommend that you select the MID setting as a starting point and change to the MAX setting later, if desired.

When the setting has been made, press the ▲/▼ buttons ⑮ so that the ▶ cursor is next to BACK TO SURR SELECT, and press the **Set** button ⑯ to return to the SURROUND SELECT menu.

Note that the Night mode may be adjusted directly any time that Dolby Digital surround mode is selected by pressing the **Night** button ⑫. When the button is pressed, the words D-RANGE followed by the current setting (MID, MAX, OFF) will appear in the lower third of the video screen and in the **Main Information Display** 29. Press the ▲/▼ buttons ⑮ within five seconds to select the desired setting, then press **Set** ⑯ to confirm the setting.

Output Level Adjustment

Output level adjustment is a key part of the configuration of any surround-sound product. It is particularly important for a digital receiver such as the DPR, as correct outputs ensure that you hear sound tracks with the proper directionality and intensity.

NOTE: Listeners are often confused about the operation of the surround channels. While some assume that sound should always be coming from each speaker, most of the time there will be little or no sound in the surround channels. This is because they are only used when a movie director or sound mixer specifically places sound there to create ambience, a special effect or to continue action from the front of the room to the rear. When the output levels are properly set, it is normal for surround speakers to operate only occasionally. Artificially increasing the volume to the rear speakers may destroy the illusion of an enveloping sound field that duplicates the way you hear sound in a movie theater or concert hall.

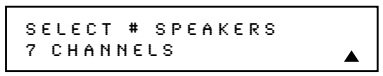
Before beginning the output level adjustment process, make certain that all speaker connections have been properly made. The system volume should be turned down at first.

Using EzSet

Harman Kardon's exclusive EzSet remote makes it possible to quickly and accurately set the DPR's output levels without the use of a sound pressure meter, although manual adjustment is also available. However, for the easiest set-up, follow these steps while seated in the listening position that will be used most often:

1. Make certain that all speaker positions have been properly configured for their "large" or "small" settings (as outlined above) and turn off the OSD system if it is in use.
2. Adjust the volume so that it is at -15, as shown in the on-screen display or **Main Information Display** 29.
3. Press and hold the **SPL Select Button** ㊶ on the remote until the red LED under the **Set Button** ⑯ lights and the LCD screen in the remote changes to the display shown below.

4. Press the **Set Button** ⑯ within five seconds to move to the next step.
5. Press the ▲ **Navigation Button** ⑮ until the lower line of the remote's LCD display shows the number of speakers in your system. (Don't count the subwoofer or speakers that are part of a multizone system.) For example, if you have left, center, right, surround left and right, and surround back left and right speakers for a full 7.1 system, press the button twice so that the bottom line reads 7 CHANNELS, as shown below.
6. Hold the remote in front of you at arm's length, being sure not to cover the **EzSet Microphone Sensor** ㊹ at the top of the remote, and press the **Set Button** ⑯ within five seconds to begin the EzSet calibration process.



At this point, EzSet will take over, adjusting the output level of each channel so that when the process is complete all levels will be equal and at the set reference point. This process may take a few minutes, depending on the extent of adjustment required.

7. During the adjustment, you will see the location of the channel position being adjusted appear in the on-screen display (if connected), on the **LCD display** ③ in the remote control and in the **Main Information Display** 29, alternating with a readout of the output setting, relative to the reference volume level. As the adjustment proceeds, a few things will happen simultaneously:

- The channel position being adjusted will flash in the **Speaker/Channel Input Indicators** 24. If the test noise is heard from a channel other than the one shown in the Indicator, the on-screen display or the front panel display, there is an error in the speaker connections. If this is the case, press the **Test Button** ⑨ TWICE to stop the adjustment. Then, turn the unit off and verify that all speakers are connected to the proper **Outputs** ⑭⑮⑯㊴. Afterwards start the adjusting process again from the beginning.
- During the adjustment process for each channel, you will see indications of LOW, HIGH and a level readout in DB. This is normal, and it confirms that EzSet is doing its job of changing the levels to match the desired reference.
- If a channel cannot be adjusted to the proper reference level, you will see FAIL displayed in the remote's bottom LCD line before the test tone moves to the next channel. This is usually an indication that the volume control was set too low. When EzSet stops circulating the tone through all channels and returns to normal, adjust the volume level and repeat the procedure from Step 3.

8. After the test noise has circulated once through each channel, it will send the tone to each channel once again, to verify the settings.
9. After two complete circulations of the tone, the levels are set. Upon completion of the second circulation, the **LCD Information Display** ③ will flash COMPLETE three times and then go out. The tone will stop and the DPR will return to normal operation.

If you find that the output levels chosen by EzSet are either much lower or much higher than the "0dB" reference setting or even at the limits of the +/-10dB variation range for the output levels, depending on the sensitivity of the speakers in use and your specific room layout, you may repeat the procedure. Return to Step 2 and adjust the master volume either higher or lower appropriately to the output levels set previously (e.g. when levels were set to about "–7dB" reduce the master volume for 7dB), to accommodate your particular room layout and your speakers. You may repeat this procedure as many times as necessary to achieve a desired result. In order to prevent possible damage to your hearing or your equipment, we emphasize that you should avoid setting the master volume above 0dB.

NOTE: The subwoofer output is not adjusted when the test tone is in use. To adjust the subwoofer output you must use an external source, following the instructions on page 38.

Manual Output Level Adjustment
Output levels may also be adjusted manually, either to set them to a specific level with an SPL meter, or to make fine tuning adjustments to the levels obtained using the EzSet remote.

Manual output level adjustment is most easily done through the CHANNEL ADJUST menu (Figure 8). If you are already at the main menu, press the ▼ **Button** 15 until the on-screen ▶ cursor is next to the CHANNEL ADJUST line. If you are not at the main menu, press the **OSD Button** 22 to bring up the MASTER MENU (Figure 1), and then press the ▼ **Button** 15 four times so that the on-screen ▶ cursor is next to the CHANNEL ADJUST line. Press the **Set Button** 16 to bring the CHANNEL ADJUST menu (Figure 8) to the screen.

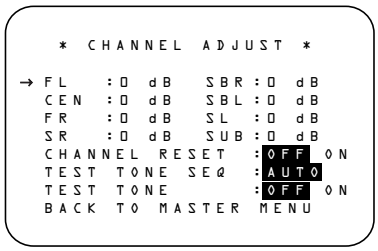

* CHANNEL ADJUST *
→ FL :0 dB SBR :0 dB
CEN :0 dB SBL :0 dB
FR :0 dB SL :0 dB
SR :0 dB SUB :0 dB
CHANNEL RESET :OFF ON
TEST TONE SEQ :AUTO
TEST TONE :OFF ON
BACK TO MASTER MENU

Figure 8

Once the menu appears on your video screen, first use the ▲ **Button** 15 to move the on-screen ▶ cursor so that it is next to the TEST TONE line. Press the ◀/▶ **Buttons** 15 so that ON is highlighted.

You will hear a test noise circulate from speaker to speaker in a clockwise direction around the room. The test noise will play for two seconds in each speaker before circulating, and a blinking on-screen cursor will appear next to the name of each speaker location when the sound is at that speaker. Now turn up the volume until you can hear the noise clearly.

IMPORTANT NOTE: Because this test noise will have a much lower level than normal music, the volume must be lowered after the adjustment for all channels is made, but BEFORE you return to the main menu and the test tone turns off.

NOTE: Remember to verify that the speakers have been properly connected. As the test noise circulates, listen to make certain that the sound comes from the speaker position shown in the **Main Information Display** 29. If the sound comes from a speaker location that does NOT match the position indicated in the display, turn the DPR off using the **Main Power Switch** 1 and check the speaker wiring or connections to external power amplifiers to make certain that each speaker is connected to the correct output terminal.

After checking for speaker placement, let the test noise circulate again, and listen to see which channels sound louder than the others. Using the front left speaker as a reference, press the ◀/▶ **Buttons** 15 on the remote to bring all speakers to the same volume level. When one of the ◀/▶ buttons is pushed, the test noise circulation will pause on the channel being adjusted to give you time to make the adjustment. When you release the button, the circulation will resume after five seconds. The on-screen cursor ▶ and the test noise can also be moved directly to the speaker to be adjusted by pressing the ▲/▼ buttons 15 on the remote.

Continue to adjust the individual channels until the volume level sounds the same from each speaker. Note that adjustments should be made with the ◀/▶ **Buttons** 15 on the remote only, NOT the main volume controls.

If you are using a sound-pressure level (SPL) meter for precise level adjustment with the test tone, open the main **Volume Control** 40 to -15dB and set the individual output level for each channel so that the meter reads 75dB, C-Weighted Slow. After all settings are made turn the main volume down.

You may also make these same adjustments with complete manual control over the channel being adjusted by pressing the ▲/▼ **Navigation Button** 15 until the → cursor is pointing to the TEST TONE SEQ line on the menu and then using the ◀/▶ **Navigation Button** 15 to select MANUAL in the highlighted video. In the MANUAL mode, the test tone will also start immediately, but the tone will only be moved to another channel by pressing the ▲/▼ **Navigation Button** 15. When the manual sequencing mode is active, the tone is turned off by pressing the ▲/▼ **Navigation Button** 15 until the → cursor is pointing to the TEST TONE line and the ◀/▶ **Navigation Button** 15 is then pressed to select OFF in the highlighted video.

The DPR's EzSet feature may also be used as an SPL meter to assist in accurate setting of the output levels, when either the internal test tone or an external source such as a test disc is used. To use the remote as an SPL meter, follow these steps:

1. Press and hold the **SPL Select Button** 41 on the remote until the red LED under the **Set Button** 16 lights and the LCD screen in the remote changes to the display shown below.
2. Press the ▲ **Navigation Button** 15 once to change the bottom line of the remote's LCD display to read MANUAL SPL as shown below.

3. Press the **Set Button** 16 within five seconds to activate the remote's manual mode, so that it functions as an SPL meter. The right corner of the bottom line of the remote's display will show the output level of the speakers as the test tone circulates. The level will show as a direct SPL indication between 66DB and 79DB. Below 66DB the remote will read LOW and above 79DB it will read HIGH.
4. When you are finished with all adjustments, press the **Clear Button** 34 to return the remote to normal operation.

NOTE: The subwoofer output level is not adjustable using the test tone. To change the subwoofer level, follow the steps for Output Level Trim Adjustment on page 38.

When all channels have an equal volume level, the adjustment is complete. Now turn the **Volume** 40 down to about -40dB, otherwise the listening level may be too high as soon as the source's music starts to play. To exit this menu, press the ▲/▼ buttons 15 until the on-screen ▶ cursor is next to the BACK TO MASTER MENU line, and then press the **Set Button** 16 to return to the MASTER MENU.

The output levels may also be adjusted at any time using the remote control and semi-OSD system. To adjust the output levels in this fashion, press the **Test Button** 9. As soon as the button is pressed, the test tone will begin to circulate as indicated earlier. The correct channel from which the test noise should be heard will be shown in the lower third of the video screen and in the **Main Information Display** 29. While the test noise is circulating, the proper channel position will also be indicated in the **Speaker/Channel Input Indicators** 24 by a blinking letter within the correct channel. Turn up the **Volume** 40 until you can hear the test noise clearly.

To adjust the output level, press the ▲/▼ buttons 15 until the desired level is shown in the display or on screen. Once the buttons are released, the test noise will begin to circulate again in five seconds.

When all channels have the same output level, turn the **Volume** 40 down to about -40dB, otherwise the listening level may be too high as soon as the source's music starts to play. Afterwards press the **Test Tone Selector** 9 button again to turn the test tone off and complete the process.

IMPORTANT NOTE: The Output level adjustment made will be effective for all inputs, but only for the actual surround mode selected. To be effective for any other mode select that mode (with any input) and repeat the level adjustment described above. This will also allow you to compensate level differences between speakers, that

may be different with each surround mode, or to increase or decrease the level of certain speakers intentionally, depending on the surround mode selected.

Note: Output level adjustment is not available for the VMAx or Surround Off mode, as no surround speakers are used (so level differences between the speakers in the room cannot occur). But to compensate level differences between stereo, VMAx and other surround modes (independently from the input selected) the outputs can be adjusted with the Level Trim Adjustment procedure, see page 38, also for the Surround Off (Stereo) and VMAx modes.

Once the settings outlined on the previous pages have been made, the DPR is ready for operation. While there are some additional settings to be made, these are best done after you have had an opportunity to listen to a variety of sources and different kinds of program material. These advanced settings are described on pages 40 to 41 of this manual. In addition, any of the settings made in the initial configuration of the unit may be changed at any time. As you add new or different sources or speakers, or if you wish to change a setting to better reflect your listening taste, simply follow the instructions for changing the settings for that parameter as shown in this section.

Note that any settings changed at any time, also when the discrete buttons are used only, will be stored in memory in the DPR, also if it´s turned off completely, unless it will be reset (see page 56).

Having completed the setup and configuration process for your DPR, you are about to experience the finest in music and home-theater listening. Enjoy!

Surround Mode Chart

MODE	FEATURES	DELAY TIME RANGE
DOLBY DIGITAL	Available only with digital input sources encoded with Dolby Digital data. It provides up to five separate main audio channels and a special dedicated Low Frequency Effects channel.	Center: 0 - 30ft / 9m Initial Setting: 12ft / 3.6m Surround: 0 - 30ft / 9m Initial Setting: 10ft / 3m
DOLBY DIGITAL EX	Available when the receiver is configured for 6.1/7.1 channel operation, Dolby Digital EX is the latest version of Dolby Digital. When used with movies or other programs that have special encoding, Dolby Digital EX reproduces specially encoded soundtracks so that a full 6.1/7.1 soundfield is available. When the receiver is set for 6.1/7.1 operation and a Dolby Digital signal is present, the EX mode is automatically selected. Even if specific EX encoding is not available to provide the additional channel, the special algorithms will derive a 6.1/7.1 output.	Center: 0 - 30ft / 9m Initial Setting: 12ft / 3.6m Surround: 0 - 30ft / 9m Initial Setting: 10ft / 3m Surround Back: 0 - 30ft / 9m Initial Setting: 10ft / 3m
DTS 5.1	When the speaker configuration is set for 5.1-channel operation, the DTS 5.1 mode is available when DVD, audio-only music or laserdiscs encoded with DTS data are played. DTS 5.1 provides up to five separate main audio channels and a special dedicated low-frequency channel.	Delay time not adjustable
DTS-ES 6.1 Matrix DTS-ES 6.1 Discrete	When the speaker configuration is set for 6.1/7.1 operation, playback of a DTS-encoded program source will automatically trigger the selection of one of the two DTS-ES modes. Newer discs with special DTS-ES discrete encoding will be decoded to provide six discrete, full-bandwidth channels plus a separate low-frequency channel. All other DTS discs will be decoded using the DTS-ES Matrix mode, which creates a 6.1-channel sound field from the original 5.1-channel soundtrack.	Delay time not adjustable
DOLBY PRO LOGIC II MOVIE MUSIC PRO LOGIC	Dolby Pro Logic II is the latest version of Dolby Laboratory's benchmark surround technology that decodes full-range, discrete left, center right, right surround and left surround channels from matrix surround encoded programs and conventional stereo sources when an analog input or a digital input with PCM or Dolby Digital 2.0 recordings is in use. The Dolby Pro Logic II Movie mode is optimized for movie soundtracks that are recorded with matrix surround, by creating separate center, rear left and rear right signals. while the Pro Logic II Music mode should be used with musical selections that are recorded with matrix surround or even with normal stereo mode, creating separate rear left and rear right signals in any case. The Pro Logic mode creates compelling five-channel surround sound from conventional stereo recordings.	Center: 0 - 30ft / 9m Initial Setting: 12ft / 3.6m Surround: 0 - 30ft / 9m Initial Setting: 10ft / 3m
DOLBY PRO LOGIC IIx MUSIC MOVIE	Dolby Pro Logic IIx is the latest extension of Dolby Pro Logic II technology that creates a discrete 6.1 and 7.1 sound field from matrix surround or two-channel stereo sources in systems configured for surround back speakers. Both Movie and Music versions of Pro Logic IIx are available. These modes may also be applied to a six-channel source connected to the **8-Channel Direct Inputs** ⑩ so that the sound field is enhanced by adding back surround channels, as well as to enable the MAIN DOWNMIX option in the multiroom system so that a six channel direct input may be used as a source for the remote room.	Center: 0 - 30ft / 9m Initial Setting: 12ft / 3.6m Surround: 0 - 30ft / 9m Initial Setting: 10ft / 3m
Logic 7 Cinema Logic 7 Music Logic 7 Enhance	Exclusive to Harman Kardon for AV receivers, Logic 7 is an advanced mode that extracts the maximum surround information from either surround-encoded programs or conventional stereo material. Depending on the number of speakers in use and the selection made in the SURROUND SELECT menu, the "5.1" versions of Logic 7 modes are available when the 5.1 option is chosen, while the "7.1" versions of Logic 7 produce a full sound field presentation, including back surround speakers when the "6.1/7.1" option is chosen. The Logic 7 C (or Cinema) mode should be used with any source that contains Dolby Surround or similar matrix encoding. Logic 7 C delivers increased center-channel intelligibility, and more accurate placement of sounds with fades and pans that are much smoother and more realistic than with former decoding techniques. The Logic 7 M or Music mode should be used with analog or PCM stereo sources. Logic 7 M enhances the listening experience by presenting a wider front soundstage and greater rear ambience. Both Logic 7 modes also direct low-frequency information to the subwoofer (if installed and configured) to deliver maximum bass impact. The Logic 7 E (or Enhance) mode is an extension of the Logic 7 modes that is primarily used with musical programs and is available with the 5.1 surround mode option selected only. Logic 7 E adds additional bass enhancement that circulates low frequencies in the 40Hz to 120Hz range to the front and surround speakers to deliver a less localized soundstage that appears broader and wider than when the subwoofer is the sole source of bass energy.	Delay time not adjustable

Surround Mode Chart

MODE	FEATURES	DELAY TIME RANGE
DTS Neo:6 Cinema DTS Neo:6 Music	These two modes are available when any analog source is playing to create a six-channel surround presentation from conventional Matrix-encoded and traditional Stereo sources. Select the Cinema version of Neo:6 when a program with any type of analog Matrix surround encoding is present. Select the Music version of Neo:6 for optimal processing when a nonencoded, two-channel stereo program is being played.	Delay time not adjustable
THEATER	The THEATER mode creates a sound field that resembles the acoustic feeling of a standard live performance theater, with stereo and even pure mono sources.	Delay time not adjustable
HALL 1 HALL 2	The two Hall modes create sound fields that resemble a small (HALL1) or medium sized (HALL 2) concert hall, with stereo and even pure mono sources.	Delay time not adjustable
VMAx Near VMAx Far	When only the two front-channel loudspeakers are used, Harman's patented VMAx mode delivers a three-dimensional sound space with the illusion of "phantom speakers" at the center and surround positions. The VMAx N, or "Near Field" mode should be selected when your listening position is less than 1,5 m from the speakers. The VMAx F, or "Far Field" mode may be selected when your listening position is greater than 1,5 m from the speakers. The VMAx modes are also available using the **Headphones Output 4**. When headphones are being used, the Far Field mode will push the sound field away from your ears, reducing the "inside the head" sensation often experienced when using headphones.	No surround channels
Dolby Virtual Speaker Reference Wide	Dolby Virtual Speaker technology uses a next-generation advanced algorithm to reproduce the dynamics and surround sound effects of a precisely placed 5.1-channel speaker system using only front left and right speakers. In the Reference Mode, the apparent width of the sound across the front image is defined by the distance between the two speakers. The Wide Mode provides a wider, more spacious front image when the two speakers areclose together.	No surround channels
5-Channel Stereo 7-Channel Stereo	This mode takes advantage of multiple speakers to place a stereo signal at both the front and back of a room. Depending on whether the DPR has been configured for either 5.1 or 6.1/7.1 operation, one of these modes, but not both, is available at any time. Ideal for playing music in situations such as a party, this mode places the same signal at the front-left and surround-left, and at the front-right and surround-right speakers. The center channel is fed a summed mono mix of the in-phase material of the left and right channels.	No delay available in these modes
SURROUND OFF (STEREO)	This mode turns off all surround processing and presents the pure left- and right-channel presentation of two-channel stereo programs.	No surround channels
Dolby Headphone DH1 DH2 DH3	Dolby Headphone enables ordinary stereo headphones to portray the sound of a five-speaker surround-playback system. The DH1 mode creates headphone presentation that resembles a small, well-damped room and is appropriate for use with both movies and music-only recordings. The DH2 mode creates a more acoustically live room particularly suited to music listening. The DH3 mode creates a larger room, more like a concert hall or movie theater.	No surround channels

Basic Operation

Once you have completed the setup and configuration of the DPR, it is simple to operate and enjoy. The following instructions should be followed for you to maximize your enjoyment of your new receiver:

Turning the DPR On or Off

• When using the DPR for the first time, you must press the **Main Power Switch** 1 on the front panel to turn the unit on. This places the unit in a Standby mode, as indicated by the amber color of the **Power Indicator** 3. Once the unit is in Standby, you may begin a listening session by pressing the **System Power Control** 2 or the **Source** button 15 on the front panel or the **AVR Selector** 6 B. Note that the **Power Indicator** 3 will turn blue. This will turn the unit on and return it to the input source that was last used. The unit may also be turned on from Standby by pressing any of the **Source Selector** buttons on the remote 5 6 7 8 B C D or the **Source** button 15 on the front panel.

NOTE: After pressing one of the **Input Selector** buttons 5 D to turn the unit on, press the **AVR Selector** 6 B to have the remote control the DPR functions.

To turn the unit off at the end of a listening session, simply press the **System Power Control** 2 on the front panel or the **Power Off Button** 4 A on the remote. Power will be shut off to any equipment plugged into the rear panel **Switched AC Outlets** 17 and the **Power Indicator** 3 will turn amber.

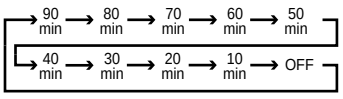
When the remote is used to turn the unit "off" it is actually placing the system in a Standby mode, as indicated by the amber color of the **Power Indicator** 3.

When you will be away from home for an extended period of time it is always a good idea to completely turn the unit off with the front panel **Main Power Switch** 1.

NOTE: All preset memories may be lost if the unit is left turned off with the **Main Power Switch** 1 for more than four weeks.

Using the Sleep Timer

• To program the DPR for automatic turn-off, press the **Sleep Button** 10 on the remote. Each press of the button will increase the time before shut down in the following sequence:



The sleep time will be displayed in the **Lower Display Line** 29 and it will count down until the time has elapsed. When the programmed sleep time has elapsed, the unit will automatically turn off (to Standby mode). Note that the front panel display will dim to one half brightness when the Sleep function is programmed. To cancel the Sleep function, press and hold the **Sleep Button** 10 until the information display returns to normal brightness and the Sleep indicator numbers disappear and the words SLEEP OFF appear in the **Main Information Display** 29.

Source Selection

• To select a source, press any of the **Source Selector** buttons on the remote 5 7 C D.

NOTE: After pressing one of the **Input Selector** buttons 5 D to turn the unit on, press the **AVR Selector** 6 B to have the remote control the DPR functions.

• The input source may also be changed by pressing the front-panel **Input Source Selector** button 15. Each press of the button will move the input selection through the list of available inputs.

• As the input is changed, the DPR will automatically switch to the digital input (if selected), surround mode and speaker configuration that were entered during the configuration process for that source.

• The front-panel **Video 5 Inputs** 21, **Optical Digital 3 Input** 18 or the **Coaxial Digital 3 Input** 20 may be used to connect a device such as a video game or camcorder to your home entertainment system on a temporary basis. When they are configured as outputs (see page 38) you can also connect an audio or video recorder (composite or S-Video) for recording the source selected.

• As the input source is changed, the new input name will appear momentarily as an on-screen display in the lower third of the video display. The input name will also appear in the **Main Information Display** 29.

• When a pure audio input (CD, Tuner, Tape, 6/8 Channel Input) is selected, the last video input used remains routed to the **Video 1/Video 2 Outputs** 26 28 (except from its own Video 1/ source) and **Video Monitor Output** 12. This permits simultaneous viewing and listening to different sources.

• When a Video source is selected, its audio signal will be fed to the speakers and the video signal for that input will be routed to the appropriate **Monitor Output Jack** 12 and will be viewable on a TV monitor connected to the DPR. If a component video source is connected to the **DVD** 22 or **Video 2** 20 **Component Inputs**, it will be routed to the **Component Video Outputs** 21. Make certain that your TV is set to the proper input to view the appropriate video signal (composite, S-Video or component video, see Notes for S-Video on page 16).

6-Channel/8-Channel Direct Input

• There are two input choices available for use with sources such as a DVD-Audio or SACD player that are connected to the **8-Channel Direct Inputs** 10. Select the appropriate input according to the way your system and source equipment is configured:

• The 6 CH DVD AUDIO input should be used when the SBR and SBL inputs are NOT in use and the input source device does NOT have its own internal bass management system. When this input is in use the analog source is converted to digital so that you may use the same Quadruple Crossover bass management options for the direct input as you do with all other inputs. This input also mutes the unused input jacks to prevent unwanted noise from interfering with system performance.

• The 8 CH DVD AUDIO input should be used when an input is connected to all eight **8-Channel Direct Inputs** 10 and the input source device does NOT have its own internal bass management system. When this input is in use the analog source is converted to digital so that you may use the same Quadruple Crossover bass management options for the direct input as you do with all other inputs.

Note that when the 6-Channel or 8-Channel Input is in use, you may not select a surround mode, as the external decoder determines the processing in use. In addition, there is no signal at the record outputs or bass management when the 6-Channel or 8-Channel Direct Input is in use and the tone or balance controls will not function.

Controls and Use of Headphones

• Adjust the volume to a comfortable level using the front panel **Volume Control** 27 or remote **Volume Up/Down** 40 I buttons.

• To temporarily silence all speaker outputs press the **Mute** button 43 ●. This will interrupt the output to all speakers and the headphone jack, but it will not affect any recording or dubbing that may be in progress. When the system is muted, the word MUTE will blink in the **Main Information Display** 29. Press the **Mute** button 43 ● again to return to normal operation.

• During a listening session you may wish to adjust the **Bass Control** and **Treble Control** to suit your listening tastes or room acoustics. Note that these controls (and Balance) will not function when the 6/8 channel direct input is in use.

• To set the output of the DPR so that the output is "flat," with the tone and balance controls deactivated, press the **Tone Mode** button 8 45 once or twice so that the words Tone Out appear momentarily in the **Main Information**

Display 29. To return the tone controls to an active condition, press the **Tone Mode** 8 button once or twice so that the words Tone In momentarily appear in the **Main Information Display** 29.

• When the tone controls are active, the amount of bass and treble boost/cut may be adjusted by first pressing the **Tone Mode Button** on the front panel 8 or the remote 45 two or three times until the desired setting (BASS MODE or TREBLE MODE) appears in the on-screen display and the **Lower Display Line** 29. Next, use the ▲/▼ **Navigation Button** 15 on the remote or the ▲/▼ **Button** on the front panel 7 14 to change the setting as desired. The unit will return to normal operation within five seconds after the setting is changed.

• For private listening, plug the 6.3 mm stereo phone plug from a pair of stereo headphones into the front panel **Headphone Jack** 4. Note that when the headphone's plug is connected, the speakers will automatically mute and a two-channel stereo signal will be sent to the headphones. The **Lower Display Line** 29 will read DOLBY H: BP, indicating that the headphone output is in the Bypass mode, and to confirm that no processing is being used.

• When the headphones are in use, you may take advantage of the Dolby Headphone modes to bring added spaciousness to headphone listening. Press the **Dolby Mode Select Button** 23 or the **Surround Mode Group Selector** 5 to cycle through the three Dolby Headphone modes to select the one that you prefer.

Surround Mode Selection

One of the most important features of the DPR is its ability to reproduce a full multichannel surround sound field from digital sources, analog matrix surround encoded programs and standard stereo or even mono programs.

Selection of a surround mode is based on personal taste, as well as the type of program source material being used. For example, CDs, motion pictures or TV programs bearing the logo of one of the major surround-encoding processes, such as Dolby Surround should be played in either the Dolby Pro Logic II or Dolby Pro Logix IIx Movie (with movies) or Music (with music) surround mode, with any DTS NEO:6 mode or with Harman Kardon´s exclusive Logic 7 Movie Mode, to create a full range 5.1 channel or (with Logic 7 and DTS NEO:6) even 7.1 channel surround signal from surround encoded programs, with a stereophonic left and right rear signal, just as it was recorded (e.g. sound being recorded from left rear side will be heard from that side only, for more details see chart on page 31).

Note that when Dolby Digital 2.0 signals (e.g. "D.D. 2.0" tracks from DVD), that are encoded with Dolby Pro Logic information, are received via any digital input, the Dolby Pro Logic II or Dolby Pro Logic IIx Movie mode will be selected automatically (in addition to the Dolby Digital mode) and will decode a full range 5.1 channel surround sound even from those recordings (see also "Dolby Digital" on page 35).

To create wide, enveloping sound field environments and defined pans and flyovers with all analog stereo recordings select the Dolby Pro Logic II Music mode or Harman Kardon's exclusive Logic 7 Music mode for a dramatic improvement in comparison to the Dolby Pro Logic (I) mode of former times.

NOTE: Once a program has been encoded with matrix surround information, it retains the surround information as long as the program is broadcast in stereo. Thus, movies with surround sound may be decoded via any of the analog surround modes such as Pro Logic II Cinema, Logic 7 Cinema or DTS Neo:6 Cinema, when they are broadcast via conventional TV stations, cable, pay-TV and satellite transmission. In addition, a growing number of made-for-television programs, sports broadcasts, radio dramas and music CDs are also recorded in surround sound. You may view a list of these programs at the Dolby Laboratories Web site at www.dolby.com.

Even when a program is not listed as carrying intentional surround information, you may find that the Dolby Pro Logic II Music, DTS NEO:6 Music or Logic 7 Music or Enhanced modes often deliver enveloping surround presentations through the use of the natural surround information present in all stereo recordings.

However, for stereo programs without any surround information the Theater, Hall and 5/7CH Stereo modes should be tried (effective particularly with old "extreme" stereo recordings) and for mono programs, we suggest that you try the Theater or Hall modes. And when you use only two front channel speakers you should select Harman's patented VMAx mode, delivering a virtually three dimensional sound space with two speakers only.

Surround modes are selected using either the front panel controls or the remote. To select a new surround mode from the front panel, first press the **Surround Mode Group Selector Button** 5 until the desired major surround mode group such as Dolby, DTS or Logic 7 is selected. Next, press the **Surround Mode Selector Button** 9 to choose the specific individual surround mode.

To select a surround mode using the remote control, press the button for the major surround mode group that includes the mode you wish to choose from: **Dolby** 23, **DTS Surround** 24, **DTS Neo:6** 30, **Logic 7** 25, **Stereo** 29 or **DSP Surround** 11. The first press of the button will show the current mode from that group if it is already in use, or the first available mode if you are currently using another mode. To cycle through the available modes in that group press the button again until the desired mode appears in the **Lower Display Line** 29 and the on-screen display.

To select from the DSP modes (Hall 1, Hall 2, Theater, VMAx Near or VMAx Far) press the **Surround Mode Selector** 11 repeatedly to scroll through the list of available modes.

Note that the Dolby Digital, Dolby Digital EX, DTS 5.1, DTS-ES Matrix and DTS-ES Discrete modes may only be selected when a digital input is in use. In addition, when a digital source is present, the DPR will automatically select and switch to the correct mode (Dolby Digital or DTS), regardless of the mode that has been previously selected. For more information on selecting digital sources, see the following section of this manual.

When the 6-Channel/8-Channel direct inputs are in use there is no surround processing, as these inputs take the analog output signals from an optional, external DVD-Audio or SACD player, or another source device and carry them straight through to the volume control.

To listen to a program in traditional two-channel stereo, using the front left and front right speakers only (plus the subwoofer, if installed and configured), press the **Stereo Button** 5 29 until SURR OFF appears in the **Main Information Display** 29.
From the front panel, press the **Surround Mode Group Selector** 5 until the Stereo modes appear in the on-screen display and **Lower Display Line** 29. Next, press the **Surround Mode Selector Button** 9 until SURROUND OFF appears in the on-screen display and **Lower Display Line** 29.

Digital Audio Playback

Digital audio is a major advancement over older analog surround processing systems such as Dolby Pro Logic. It delivers five or six discrete channels: left front, center, right front, left surround and right surround and with DTS ES (see below) even surround back (with identical signals for left and right). Each channel reproduces full frequency range (20Hz to 20kHz) and offers dramatically improved dynamic range and significant improvements to signal-to-noise ratios. In addition, digital systems have the capability to deliver an additional channel that is specifically devoted to low-frequency information. This is the ".1" channel referred to when you see these systems described as "5.1," "6.1" or "7.1". The bass channel is separate from the other channels, but since it is intentionally bandwidth-limited, sound designers have given it that unique designation.

Dolby Digital
Dolby Digital (originally known as AC-3®) is a standard part of DVD, and is available on specially encoded LD discs and satellite broadcasts and it is a part of the new high-definition television (HDTV) system.

Note that an optional, external RF demodulator is required to use the DPR to listen to the Dolby Digital sound tracks available on laser discs. Connect the RF output of the LD player to the demodulator and then connect the digital output of the demodulator to the **Optical** or **Coaxial** inputs 31 32 18 20 of the DPR. No demodulator is required for use with DVD players or DTS-encoded laser discs.

DTS
DTS is another digital audio system that is capable of delivering 5.1, 6.1 or 7.1 audio. Although both DTS and Dolby Digital are digital, they use different methods of encoding the signals, and thus they require different decoding circuits to convert the digital signals back to analog.

DTS-encoded sound tracks are available on select DVD and LD discs, as well as on special audio-only DTS CDs. You may use any LD, DVD or CD player equipped with a digital output to play DTS-encoded special audio-only CDs with the DPR, but DTS-LDs can be played on LD players and DTS-DVDs on DVD players only. All that is required is to connect the player's digital output to either the **Optical** or **Coaxial** input on the rear panel 31 32 or front panel 18 20.

In order to listen to DVDs encoded with DTS sound tracks, the DVD player must be compatible with the DTS signal as indicated by a DTS logo on the player's front panel. Note that early DVD players may not be able to play DTS- encoded DVDs. This does not indicate a problem with the DPR, as some players cannot pass the DTS signal through to the digital outputs. If you are in doubt as to the capability of your DVD player to handle DTS DVDs, consult the player's owner's manual.

Please note that some DVD players are shipped with their output set for Dolby Digital only. To insure that DTS data is being sent to the DPR, please check the setup menu system on your DVD player to make certain that DTS data output is enabled.

PCM Audio Playback
PCM (Pulse Code Modulation) is the non- compressed digital audio system used for compact discs, Non-Dolby Digital/DTS Laserdiscs and some special PCM encoded DVDs.

Connections may be made to either the **Optical** or **Coaxial** inputs 31 32 on the rear panel or the front panel **Digital Inputs** 18 20.

To listen to a PCM digital source, first select the input for the desired source (e.g., CD) to feed its video signal (if any) to the TV monitor and to provide its analog audio signal for recording. Next press the **Digital Select** button 25 17 and then use the ▲/▼ buttons 15 on the remote, or the **Selector** buttons 7 14 on the front panel, until the desired choice appears in the **Lower Display Line** 29, then press the **Set** button 12 16 to confirm the choice.

In most cases this will be PCM 44.1 KHZ or PCM 48 KHZ though in the case of specially mastered, high-resolution audio discs you will see a PCM 96 KHZ indication.

During PCM playback the unit automatically will turn to the default surround mode or to the LOGIC 7 mode but you also may select any surround mode except Dolby Digital or DTS. When an HDCD encoded disc is being played (see below) and the CD player is connected to the DPR via a digital connection, select Surround Off as the Surround mode to enjoy the benefits of the HDCD process.

HDCD
HDCD, which stands for High Definition Compatible Digital®, is a sophisticated process that enables the DPR to deliver outstanding digital-to-analog decoding of PCM signals from any DVD or CD player, connected to a digital input on the DPR even when normal, non-HDCD-compatible players are used (only a digital output is needed).

When a CD with the HDCD recording is played, the DPR is able to take advantage of the special recording process that is used in the creation of HDCD disc. The special circuitry enables audio with extraordinary fidelity, stunning resolution and the highest possible overall quality.

As long as a digital input and the pure Stereo mode (Surround Off) are selected, the DPR will automatically sense that it is an HDCD recording.

It is important to note that the HDCD process is completely compatible with standard recordings. Indeed, the high-quality digital-to-analog circuitry that is part of HDCD and the HDCD decoder chip, replacing the monolithic digital filters used in conventional DACs, will enable enhanced performance also with normal, non-HDCD encoded program material.

MP3 Audio Playback
The DPR is one of the few A/V receivers to provide on-board decoding for the MP3 audio format used on specific computer audio files and by portable MP3 players/recorders. In addition, some new CD and DVD players are capable of playing back optical discs that are recorded with MP3, rather than standard CD audio information. By offering MP3 decoding, the DPR is able to deliver more precise conversion of the digital signals to an analog output, along with the benefits of listening to MP3 audio through the DPR's high current amplifier and the speakers from your surround system, rather than the smaller speakers and low powered amplifiers typically used with computers.

To take advantage of the DPR's MP3 capabilities, simply connect the digital (SPDIF) output of a computer sound card able to feed the MP3 format to its digital output, or the digital (SPDIF) output of MP3 compatible CD or DVD players or of a portable MP3 player with a digital output to either the rear panel **Digital Inputs** 31 32 or the front panel **Digital Inputs** 18 20.

NOTES:
• The DPR is only capable of playing signals in the MP3 (MPEG 1/Layer 3) format. It is not compatible with other computer audio codecs.

• The MP 3 DSP mode found in the new DPR requires an MP3 SPDIF stream. Presently, only a few units provide this but in the coming generations of motherboards and operating system updates this will follow, since SPDIF is the standard for audio & video hardware.

• The digital audio input signal may be either optical or coaxial, but the signal must be in the MP3 SPDIF format. Direct connection of USB or serial data outputs is not possible, even though the signals are in the MP3 format. If you have any questions about the data output format from your computer or a sound card, check with the device's Owner's Manual or contact the manufacturer's technical support area.

• If your computer or sound card's digital output is not capable of direct connection to the DPR or if the output is not capable of delivering MP3 data stream, you may use an optional, external transcoder, such as those available from Harman Kardon to convert the USB output of a computer to a format compatible with the DPR. Contact your Harman Kardon dealer for additional details.

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Selecting a Digital Source
To utilize either digital mode you must have properly connected a digital source to the DPR. Connect the digital outputs from DVD players, HDTV receivers, satellite systems or CD players to the **Optical** or **Coaxial** inputs on the rear or front panel 31 32 18 20. In order to provide a backup signal and a source for analog stereo recording, the analog outputs provided on digital source equipment should also be connected to their appropriate inputs on the DPR rear panel (e.g., connect the analog stereo audio output from a DVD to the **DVD Audio inputs** 6 on the rear panel when you connect the source's digital outputs).

To select a digital source such as DVD, first select its input using the remote or front panel **Input Selector** 5 15 as outlined in this manual in order to feed its video signal (if any) to the TV monitor and to provide its analog audio signal for recording. When the digital input associated with the input selected (e.g. "DVD") is not selected automatically (due to the input settings made earlier during the system configuration, see page 21), select the digital source by pressing the **Digital Input Selector** button 17 25 and then using the ▲/▼ buttons 15 on the remote or the **Selector** buttons 7 14 on the front panel to choose any of the OPTICAL or COAXIAL inputs, as they appear in the **Upper Display Line** 29 or on-screen display.

When the digital source is playing, the DPR will automatically detect whether it is a multichannel Dolby Digital or DTS source or a HDCD, MP3 or conventional PCM signal, which is the standard output from CD players.

When both a digital and an analog connection are made between a source device and the DPR, the digital input is the default. If the digital stream is not present or is interrupted, the unit will automatically switch over to the analog inputs for the selected source.

Note that a digital input (e.g. coaxial) remains associated with any analog input (e.g. DVD) as soon as it is selected, thus the digital input need not be re-selected each time the appropriate input choice (e.g. DVD) is made.

Digital Bitstream Indicators
When a digital source is playing, the DPR senses the type of bitstream data that is present. Using this information, the correct surround mode will automatically be selected. For example, DTS bitstreams will cause the unit to switch to DTS decoding, and Dolby Digital bitstreams will enable Dolby Digital decoding. When the unit senses PCM data, from CDs and LDs and some music DVDs or certain tracks on normal DVDs, it will allow the appropriate surround mode to be selected manually. Since the range of available surround modes depends on the type of digital data that is present, the DPR uses a variety of indicators to let you know what type of signal is present. This will help you to understand the choice of modes and the input channels recorded on the disc.

When a digital source is playing, the DPR will display a variety of messages to indicate the type of bitstream received. These messages will appear shortly after an input or surround mode is changed, and will remain in the **Main Information Display** 29 for about five seconds before the display returns to the normal surround mode indication.

For Dolby Digital and DTS sources, a three digit indication will appear, showing the number of channels present in the data. An example of this type of display is 3/2/.1.

The first number indicates how many discrete front channel signals are present.

• A 3 tells you that separate front left, center and front right signals are available. This will be displayed for Dolby Digital 5.1 and DTS 5.1 programs.

• A 2 tells you that separate front left and right signals are available, but there is no discrete center channel signal. This will be displayed for Dolby Digital bit streams that have stereo program material.

• A 1 tells you that there is only a mono channel available in the Dolby Digital bitstream.

The middle number indicates how many discrete surround channel signals are present.

• A "3" tells you that separate, discrete left surround, center surround and right surround signals are present. This is available only on discs with DTS-ES digital audio.

• A 2 tells you that separate surround left and right signals are available. This will be displayed for Dolby Digital 5.1 and DTS 5.1 programs.

• A 1 tells you that there is only a single, surround encoded surround channel. This will appear for Dolby Digital bit streams that have matrix encoding.

• A 0 indicates that there is no surround channel information. This will be displayed for two-channel stereo programs.

The last number indicates if there is a discrete Low Frequency Effects (LFE) channel. This is the ".1" in the common abbreviation of "5.1" sound and it is a special channel that contains only bass frequencies.

• A .1 tells you that an LFE channel is present. This will be displayed for Dolby Digital 5.1 and DTS 5.1 programs, as available.

• A 0 indicates that there is no LFE channel information available. However, even when there is no dedicated LFE channel, low frequency sound will be present at the subwoofer output when the speaker configuration is set to show the presence of subwoofer.

• The information in the right side of the display will tell you if the digital audio data contains a special flag signal that will automatically activate the appropriate 6.1 or 7.1 mode. This will be shown as EX-ON or EX-OFF for Dolby Digital bitstreams and ES-ON or ES-OFF for DTS bitstreams.

When Dolby Digital 3/2/.1 or DTS 3/2/.1 signals are being played, the DPR will automatically switch to the proper surround mode, and no other processing may be selected. When a Dolby Digital signal with a 3/1/0 or 2/0/0 signal is detected you may select any of the Dolby surround modes.

It is always a good idea to check the readout for the channel data to make certain that it matches the audio logo information shown on the back of a DVD package. In some cases you will see indication for "2/0/0" even when the disc contains a full 5.1, or 3/2/.1 signal. When this happens, check the audio output settings for your DVD player or the audio menu selections for the specific disc being played to make certain that the player is sending the correct signal to the DPR.

An UNLOCK message may appear in the **Lower Display Line** 29. This is your indication that the digital audio data stream has been interrupted or is no longer present. When that occurs, the unit's digital signal processor has no signal to lock onto, and is thus "unlocked." You may see this message when a DVD is first started until the stream is playing and the processor determines which mode to apply; or any time the data stream is stopped or paused, such as when the menus of some discs are displayed or when the player is switching between the different sections of a disc. You may also see the message when a satellite receiver, cable set-top or HDTV tuner is in use if the digital audio is temporarily interrupted when channels are changed or when a cable box switches from a channel with a digital data stream to a channel with analog audio only. The UNLOCK message is normal, and does not indicate any problem with your receiver. Rather, it tells you that the incoming data has simply been paused or is not present for a variety of possible reasons.

Speaker/Channel Indicators
In addition to the **Bitstream Indicators**, the DPR features a set of unique channel-input indicators that tell you how many channels of digital information are being received and/or whether the digital signal is interrupted. (See Figure 9).

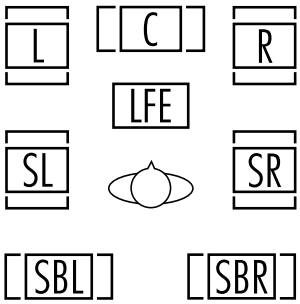

Figure 9

These indicators are the L/C/R/LFE/SL/SR/SBL/SBR letters that are inside the center boxes of the **Speaker/Channel Input Indicators** 24 in the front panel **Main Information Display** 29. When a standard analog stereo or matrix surround signal is in use, only the "L" and "R" indicators will light, as analog signals have only left and right channels.

Digital signals, however, may have one, two, five, six or seven separate channels, depending on the program material, the method of transmission and the way in which it was encoded. When a digital signal is playing, the letters in these indicators will light in response to the specific signal being received. It is important to note that although Dolby Digital, for example, is referred to as a "5.1" system, not all Dolby Digital DVDs or audio tracks selected on DVD or other Dolby Digital programs are encoded for 5.1. Thus, it is sometimes normal for a DVD with a Dolby Digital soundtrack to trigger only the "L" and "R" indicators.

NOTE: Many DVD discs are recorded with both "5.1" and "2.0" versions of the same soundtrack. When playing a DVD, always be certain to check the type of material on the disc. Most discs show this information in the form of a listing or icon on the back of the disc jacket. When a disc does offer multiple soundtrack choices, you may have to make some adjustments to your DVD player (usually with the "Audio Select" button or in a menu screen on the disc) to send a full 5.1 feed to the DPR or to select the appropriate audio track and thus language. It is also possible for the type of signal feed to change during the course of a DVD playback. In some cases the previews of special material will only be recorded in 2.0 audio, while the main feature is available in 5.1 audio. As long as your DVD player is set for 6-channel output, the DPR will automatically sense changes to the bitstream and channel count and reflect them in these indicators.

Important Note: When a digital surround source (Dolby Digital, DTS) is played, the letters SBL/SBR for the Surround Back channels will appear only when a DTS ES DISCRETE 6.1 source is played. Then this surround mode will be indicated in the front display and on-screen display. With all other recordings the icons for the surround back speakers may light (when those speakers have been configured) to indicate that a signal will be fed to them (Matrix decoded with NEO:6, LOGIC 7 or 7 CH Stereo), but no letters inside will light as the unit will not receive an input signal for the surround back channels.

The letters used by the **Speaker/Channel Input Indicators** 24 also flash to indicate when a bitstream has been interrupted. This will happen when a digital input source is selected before the playback starts, or when a digital source such as a DVD is put into a Pause mode. The flashing indicators along with the UNLOCK message in the **Lower Display Line** 29 remind you that the playback has stopped due to the absence of a digital signal and not through any fault of the DPR. This is normal, and the digital playback will resume once the playback is started again.

Night Mode
A special feature of Dolby Digital is the Night mode, which enables Dolby Digital input sources to be played back with full digital intelligibilty while reducing the maximum peak level and lifting the low levels by 1/4 to 1/3. This prevents abruptly loud transitions from disturbing others without reducing the impact of the digital source. The Night mode is available only when the Dolby Digital mode is selected.

The Night mode may be engaged when a Dolby Digital DVD is playing by pressing the **Night** Button 12 on the remote. Next, press the ▲/▼ buttons 15 to select either the middle range or full compression versions of the Night mode. To turn the Night mode off, press the ▲/▼ buttons 15 until the message in the lower third of the video display and the **Lower Display Line** 29 reads D-RANGE OFF.

The Night mode may also be selected to always be on as soon as the Dolby Digital mode is activated at either level of compression using the options in the DOLBY SURR menu. See page 25 for information on using the menus to set this option.

IMPORTANT NOTES ON DIGITAL PLAYBACK:
• When the digital playback source is stopped, or in a pause, fast forward or chapter search mode, the digital audio data will momentarily stop, and the channel position letters inside the **Speaker/Channel Indicators** 24 will flash and an UNLOCK message may appear. This is normal and does not indicate a problem with either the DPR or the source machine. The DPR will return to digital playback as soon as the data is available and when the machine is in a standard play mode.

• Some source devices, particularly cable set-top boxes, will switch back and forth between digital and analog audio outputs, depending on the channel being watched. To avoid losing sound with this type of product, it is recommended that you connect both the digital and analog audio outputs of the source to the DPR 2005, with the digital audio input set as the default following the steps shown on page 21. The DPR will monitor the digital data stream and when it is interrupted the sound will mute briefly and possibly display an UNLOCK message while it switches to the analog audio input. This switching is not a fault of either the DPR or the cable box, as it is caused by the use of different audio technologies on different channels by the cable company or program supplier.

• Although the DPR will decode virtually all DVD movies, CDs and HDTV sources, it is possible that some future digital sources may not be compatible with the DPR.

• Note that not all digitally encoded programs and not all audio tracks on a DVD contain full 5.1 or 6.1 channel audio. Consult the program guide that accompanies the DVD or laser disc to determine which type of audio has been recorded on the disc. The DPR will automatically sense the type of digital surround encoding used, indicate it in the **Channel Input Indicators** 24 and adjust to accommodate it.

• When a Dolby Digital or DTS source is playing, you normally may not be able to select some of the analog surround modes such as Dolby Pro Logic II, Hall, Theater, 5CH/7CH Stereo or Logic 7, except with specific Dolby Digital 2.0 recordings that can be played with the Pro Logic II modes too (see page 36).

• When a digital source is playing, it is possible to make an analog recording using the **Tape** 4 or **Video 1** or **Video 2** or 33 37 record outputs, even if the source is connected to any digital input of the DPR only, as long as "Surround Off" mode is selected (possible with a PCM source only). But the analog two channel signal, even of a Dolby Digital (not DTS) source, the "Downmix" to Stereo or Dolby Surround, can be recorded by connecting its analog audio outputs to the appropriate analog inputs (e.g. DVD) of the DPR. Additionally, the digital signals will be passed through to the **Digital Audio Outputs** 11.

Tape Recording

In normal operation, the audio or video source selected for listening through the DPR is sent to the record outputs. This means that any program you are watching or listening to may be recorded simply by placing machines connected to the outputs for **Tape Outputs** ❹ or **Video 1** or **2 Outputs** ㉖㉘㉝㊲ in the record mode.

When a digital audio recorder is connected to any of the **Digital Audio Outputs** ⓫, you are able to record the digital signal using a CD-R, MiniDisc or other digital recording system. Note that all digital signals will be passed through to both, coaxial and optical, digital outputs simultanously, no matter which kind of digital input was selected.

Front Panel In/Outputs

In addition to the rear panel digital outputs, the DPR offers Harman Kardon's exclusive configurable front panel output jack feature. For easy connection of portable devices, you may switch the front panel **Digital Coax 3 jack** 20 or the **Video 5** jack 21 from an input to an output by following these steps:

1. Press the **OSD** button ㉒ to view the MASTER MENU (Figure 1).

2. Press the **Set** button ⓰ to enter the IN/OUT SETUP menu (Figure 2).

3. Press the ▼ button ⓯ so that the on-screen ▶ cursor is next to VIDEO 5 or COAXIAL 3 depending on which input you wish to change to an output. Either input, or both may be changed at any time.

4. Press either of the ◀/▶ buttons ⓯ so that the word OUT is highlighted.

5. Press the **OSD** button ㉒ to exit the menus and return to normal operation.

Note that once the setting is made, the appropriate **Input/Output Status Indicator** 19 will turn red, indicating that the selected analog or digital jacks are now an output, instead of in the default setting as an input. Once changed to an output, the setting will remain as long as the DPR is turned on, unless the setting is changed in the OSD menu system, as described above. Note, however, that once the DPR is turned off, the setting is cancelled. When the unit is turned on again, the front panel jacks will return to their normal default setting as an input. If you wish to use the jacks as an output at a future time, the setting must be changed again using the OSD menu system, as described above.

NOTES:

• The digital outputs are active only when a digital signal is present, and they do not convert an analog input to a digital signal, or change the format of the digital signal (e.g. Dolby Digital to PCM or vice versa, but coaxial digital signals are converted to optical signals and vice versa). In additon, the digital recorder must be compatible with the output signal. For example, the PCM digital output from a CD player may be recorded on a CD-R or MiniDisc, but Dolby Digital or DTS signals may not.

• To make an analog recording from a digital source is possible, but only from a PCM source (not Dolby Digital or DTS) and correctly only with "Surround Off" mode (with any Surround mode only the L/R front signals will be fed to the record outputs).

Output Level Adjustment With Source Signals

Normal output level adjustment for the DPR is established using the test tone, as outlined on page 28. In some cases, however, it may be desirable to adjust the output levels using program material such as a test disc, or a selection you are familiar with. Additionally, the output level for the subwoofer and those for the Stereo and VMAx modes can only be adjusted using this procedure. Note that all adjustments made with any input will be effective with all inputs selected, just as it is the case with the adjustment using the test tone.

To adjust the output levels using program material, first select the surround mode for which you want to trim the speakers (see NOTE below), start your program material source and set the reference volume for the front left and front right channels using the **Volume Control** ㊵❶.

Once the reference level has been set, press the **Channel Select** button ⓭26 and note that FRONT L LEVEL will appear in the **Lower Display Line** 29. To change the level, first press the **Set** button ⓰ 12, and then use the **Selector** buttons 7 14 or the ▲/▼ buttons ⓯ to raise or lower the level. DO NOT use the volume control, as this will alter the reference setting.

Once the change has been made, press the **Set** button ⓰ 12 and then press the **Selector** buttons 7 14 or the ▲/▼ buttons ⓯ to select the next output channel location that you wish to adjust. To adjust the subwoofer level, press the **Selector** buttons 7 14 or the ▲/▼ buttons ⓯ until WOOFER LEVEL appears in the **Main Information Display** 29 or on-screen display (only available if the subwoofer is turned on).

Press the **Set** button ⓰ 12 when the name of the desired channel appears in the **Main Information Display** 29 and on-screen display, and follow the instructions shown above to adjust the level.

Repeat the procedure as needed until all channels requiring adjustment have been set. When all adjustments have been made and no further adjustments are made for five seconds, the DPR will return to normal operation.

If you are using a disc with noise test signals or an external signal generator as the source from which to trim the output levels, you may use the EzSet feature of the remote to guide you to the correct SPL level. To use the remote for this purpose, follow the instructions on page 29.

The channel output may also be adjusted using the full-OSD on-screen menu system. First, set the volume to a comfortable listening level using the **Volume Control** 27㊵❶. Then, press the **OSD** button ㉒ to bring up the MASTER MENU (Figure 1). Press the ▼ Button ⓯ four times until the on-screen ▶ cursor is next to the CHANNEL ADJUST line. Press the **Set** Button ⓰ to activate the CHANNEL ADJUST menu (Figure 10).

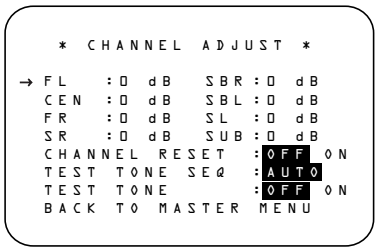
* CHANNEL ADJUST *
→ FL :0 dB SBR :0 dB
CEN :0 dB SBL :0 dB
FR :0 dB SL :0 dB
SR :0 dB SUB :0 dB
CHANNEL RESET :OFF ON
TEST TONE SEQ :AUTO
TEST TONE :OFF ON
BACK TO MASTER MENU

Figure 10

When the menu appears, the internal test tone will be turned off. This will allow you to use your external test disc or other source material as the test signal. Then, use the ▲/▼ **Buttons** ⓯ to select the channels to be adjusted. At each channel position use the ◀/▶ **Buttons** ⓯ to change the output level.
Remember, when you are using a disc with test signal (e.g. pink noise) or an external signal generator as the source, the goal is to have the output level at each channel be equal when heard at the listening position, with any surround mode selected. When your test source is a normal disc with music signals, you may adjust the level for each channel and surround mode as you prefer, e.g. you may lower the center channel level when you find it to be too high or increase the level of the rears when you find it to be too low with specific surround modes.

If you wish to reset all the levels to their original factory default of 0dB offset, press the ▲/▼ **Buttons** ⓯ so that the on-screen cursor is next to the CHANNEL RESET line and press the ◀/▶ **Buttons** ⓯ so that the word ON is highlighted. After the levels are reset, resume the procedure outlined above to reset the levels to the desired settings. When all adjustments are done, press the ▲/▼ **Buttons** ⓯ to move the on-screen ▶ cursor so that it is next to BACK TO MASTER MENU and then press the **Set Button** ⓰ if you wish to go back to the main menu to make other adjustments. If you have no

other adjustments to make, press the **OSD Button** 22 to exit the menu system.

NOTE: The output levels may be separately trimmed for each digital and analog surround mode. If you wish to have different trim levels for a specific mode, select that mode and then follow the instructions in the steps shown above.

With Stereo and VMAx modes the adjustment procedure described above is the only way to trim the output level, e.g. to match the Stereo or VMAx level with other modes.

Dim Function
Since the DPR will often be used when movies or other video programming is viewed under low-light conditions, you may wish to lower the brightness of the front-panel displays and indicators so that they do not distract from the video presentation. You may dim the displays using the menu system, as shown on page 40, or you may control the brightness directly from the remote.

Simply press the **Dim Button** 14 once to dim the front panel to half the normal brightness level; press it again to turn the displays off. Note that when the displays are dimmed or turned off, the blue lighting around the **Standby/On Switch** 3 will continue to stay lit as a reminder that the DPR is still turned on.

The accent lighting for the **Volume Control** 27 will remain at its normal level, rather than dim when the panel displays are at half brightness.

Note that all changes to the front-panel brightness level are temporary; the displays will return to full brightness after the DPR is turned off and then on again. To return the displays to full brightness without turning the unit off, press the **Dim Button** 14 as needed until the displays are on.

In addition to lowering the brightness of the displays or turning them off completely, you may wish to have them appear whenever a button on the remote or front panel is pushed, and then gradually fade out after a set time period. You may do this by making the appropriate settings in the `VFD FADE TIME OUT` line of the **ADVANCED** Menu, as shown on page 40.

Memory Backup

This product is equipped with a memory backup system that preserves tuner presets and system configuration information if the unit is turned off completely, accidentally unplugged or subjected to a power outage. This memory will last for approximately two weeks, after which time all information must be reentered.

The DPR is equipped with a number of advanced features that add extra flexibility to the unit's operation. While it is not necessary to use these features to operate the unit, they provide additional options that you may wish to use.

Surround Amplifier Channel Assignment

The DPR is equipped with seven full-power amplifier channels to allow for complete 7.1-channel operation without the need for additional external amplifiers. However, in some installations you may wish to use the traditional 5.1-channel configuration for the main listening room, which allows the surround back left/right amplifier channels to be used to power speakers placed in a remote zone location.

If you wish to use the Surround Back channel amplifiers to power the remote zone, you must change a setting in the MULTI-ROOM menu. To make that change, first call up the menu system by pressing the **OSD Button** 22 to bring the MASTER MENU (Figure 1) to the screen. Next, press the ▼ Button 15 until the ▶ cursor is next to the MULTI-ROOM line. Press the **Set Button** 16 to enter the MULTI-ROOM SETUP menu (Figure 11).

Figure 11

If you wish to use the Surround Back amplifier channels to power the remote zone, press the ▲/▼ **Navigation Button** 15 until the → cursor is pointing to the SB AMPS line on the MULTI-ROOM SETUP menu. Press the ◀/▶ **Navigation Button** 15 until MULTI is highlighted in reverse video and press the **Set Button** 16.

Remember that once this setting is made you will not be able to take advantage of any of the 6.1/7.1- channel decoding or processing modes, and no Surround Back speakers must be selected in the speaker setup procedure outlined earlier. In addition the speakers used for the remote zone must be connected to the **Surround Back/ Multiroom Speaker Outputs** 39. The volume for these speakers is set by the multiroom system, as explained on page 42 of this manual.

Once this setting is made, you may press the ▲/▼ **Button** 15 to make any of the other adjustments available on this menu. If no other adjustments are needed, press the **OSD Button** 22 to exit the menu system.

Front-Panel-Display Fade

In normal operation, the front-panel displays and indicators remain on at full brightness, although you may also dim them or turn them off as shown on page 39. As an additional option, you may also set the DPR so that the displays are on whenever a button is pressed on the front panel or remote, but then fade out after a set period of time.

To set the front-panel displays to the Fade mode, press the **OSD Button** 22 to bring the Master Menu to the screen. Press the ▲/▼ **Navigation Button** 15 so that the → cursor is pointed to the ADVANCED line, and press the **Set Button** 16 to enter the ADVANCED SELECT menu (Figure 12).

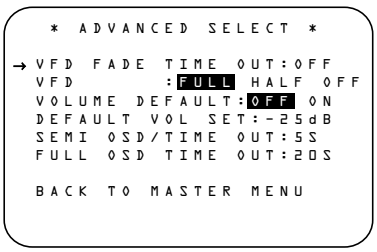
* ADVANCED SELECT *
→ VFD FADE TIME OUT: OFF
VFD : FULL HALF OFF
VOLUME DEFAULT: OFF ON
DEFAULT VOL SET: -25dB
SEMI OSD/TIME OUT: 5S
FULL OSD TIME OUT: 20S
BACK TO MASTER MENU

Figure 12

With the ADVANCED SELECT menu on your video display, press the ▲/▼ **Navigation Button** 15 so that the → cursor is pointed to the VFD FADE TIME OUT line. Next, press the ◀/▶ **Navigation Button** 15 so that the amount of time that you wish the displays to fade out after a button is pressed is shown.

Once this time is set and the unit returned to normal operation, the displays will remain on for the time period selected whenever a button is pressed on the front panel or remote. After that time they will gradually fade out, with the exception of the lighting surrounding the **Standby/On Switch** 3, which remains on to remind you that the DPR is turned on. Note that if the displays have been turned completely off using the Dim Button, as shown on page 39 , the Fade function will not operate.

If you wish to make adjustments to other items on the ADVANCED SELECT menu, press the ▲/▼ **Navigation Button** 15 to place the → cursor next to the desired item, or place the → cursor next to the BACK TO MASTER MENU line and press the **Set Button** 16 to make an adjustment to another menu. If you have completed all adjustments, press the **OSD Button** 22 to exit the menu system.

Display Brightness

The DPR's front panel **Main Information Display** 29 is set at a default brightness level that is sufficient for viewing in a normally lit room. However, in some home theater installations, you may wish to occasionally lower the brightness of the display, or turn it off completely.

To change the display brightness setting for a specific listening session, you will need to make an adjustment in the ADVANCED SELECT menu. To start the adjustment, press the **OSD** button 22 to bring the MASTER MENU to the screen. Press the ▲ Button 15, until the on-screen ▶ cursor is next to the ADVANCED line. Press the **Set** Button 16 to enter the ADVANCED SELECT menu (Figure 12).

To change the brightness setting, at the ADVANCED SELECT menu, make certain that the on-screen ▶ cursor is next to the VFD line, and press the ▶ Button 15 until the desired brightness level is highlighted in the video display. When FULL is highlighted, the display is at its normal brightness. When HALF is highlighted, the display is at half the normal brightness level. When OFF is highlighted, all of the indicators in the **Main Information Display** 29 will go dark. Note, however, that the **Power Indicator** 3, will always remain lit to remind you that the unit is turned on.

If you wish to make other adjustments in the menu, press the ▲/▼ Buttons 15 until the on-screen ▶ cursor is next to the desired setting or the BACK TO MASTER MENU line and press the **Set** button 16. If you have no other adjustments to make, press the **OSD** Button 22 to exit the menu system.

The display brightness may also be changed by pressing and holding the **Set** button 12 on the front for three seconds until the message in the **Main Information Display** 29 reads VFD FULL. Within five seconds, press the front panel **Selector** buttons 7 14 until the desired brightness display level is shown. At that point, press the **Set** button 12 again to enter the setting.

Once the desired brightness level is selected, it will remain in effect until it is changed again or until the unit is turned off.

Turn On Volume Level

As is the case with most audio/video receivers, when the DPR is turned on, it will always return to the volume setting in effect when the unit was turned off. However, you may prefer to always have the DPR turn on at a specific setting, regardless of what was last in use when the unit was turned off. To change the default condition so that the same volume level is always used at turn-on, you will need to make an adjustment in the ADVANCED SELECT menu. To start the adjustment, press the **OSD** button 22 to bring the MASTER MENU (Figure 1) to the screen. Press the ▲ button 15, until the on-screen ▶ cursor is next to the ADVANCED line. Press the **Set** button 16 to enter the ADVANCED SELECT menu (Figure 12).

At the ADVANCED SELECT menu make certain that the on-screen ▶ cursor is next to the VOLUME DEFAULT line by pressing the ▲/▼ buttons 15 as needed. Next, press the ▶ button 15 so that the word ON is highlighted in the video display. Next, press the ▼ button 15 once so that the on-screen ▶ cursor is next to the DEFAULT VOL SET line. To set the desired turn-on volume, press the ◀/▶ buttons 15 or hold them pressed until the desired volume level is shown on the DEFAULT VOL SET line. Note that this setting may NOT be made with the regular volume controls.

NOTE: Since the setting for the turn-on volume cannot be heard while the setting is being made, you may wish to determine the setting before making the adjustment. To do this, listen to any source and adjust the volume to the desired level using the regular volume controls 40 ❙. When the desired volume level to be used at turn-on is reached, make a note of the setting as it appears in the lower third of the video screen or in the **Main Information Display** 29.
A typical volume level will appear as a negative number such as -25dB. When making the adjustment, use the ◀/▶ buttons 15 to enter this setting.

Unlike some of the other adjustments in this menu, the turn-on volume default will remain in effect even when the unit is turned off completely, unless it is changed or turned off in this menu.

If you wish to make other adjustments in the menu, press the ▲/▼ Buttons 15 until the on-screen ▶ cursor is next to the desired setting or the BACK TO MASTER MENU line and press the **Set** button 16. If you have no other adjustments to make, press the **OSD** Button 22 to exit the menu system.

Semi-OSD Settings

The semi-OSD system places one line messages at the lower third of the video display screen whenever the Volume, Input Source, Surround mode or tuner frequency of any of the configuration settings are changed. The semi-OSD system is helpful in that enables you to have feedback on any control changes or remote commands using the video display when it is difficult to view the front-panel displays. However, you may occasionally prefer to turn these displays off for a particular listening session. You may also want to adjust the length of time the displays remain on the screen. Both of those options are possible with the DPR.

To turn off the semi-OSD system, you will need to make an adjustment in the ADVANCED SELECT menu (Figure 12). To start the adjustment, press the **OSD** button 22 to bring the MASTER MENU to the screen. Press the ▲ Button 15, until the on-screen ▸ cursor is next to the ADVANCED line. Press the **Set** Button 16 to enter the ADVANCED SELECT menu.

At the ADVANCED SELECT menu make certain that the on-screen ▶ cursor is next to the SEMI OSD line by pressing the ▲/▼ buttons 15 as needed. Next, press the ▸ button 15 so that the word OFF is highlighted in the video display.

Note that this setting is temporary and will remain active only until it is changed or until the DPR is turned off. Once the unit is turned off, the semi-OSD displays will remain activated, even if they were switched off for the previous listening session.

To change the length of time that the semi-OSD displays remain on the screen, go to the ADVANCED SELECT Menu as outlined earlier, and press the ▲/▼ buttons 15 as needed, until the on-screen ▶ cursor is next to the SEMI-OSD TIME OUT line. Next, press the ◀/▶ Buttons 15 until the desired time in seconds is displayed. Note that unlike most of the other options in this menu, this is a permanent setting change, and the time-out entry will remain in effect until it is changed, even when the unit is turned off.

If you wish to make other adjustments in the menu, press the ▲/▼ Buttons 15 until the on-screen ▶ cursor is next to the desired setting or the BACK TO MASTER MENU line and press the **Set** button 16. If you have no other adjustments to make, press the **OSD** Button 22 to exit the menu system.

Full-OSD Time Out Adjustment

The FULL OSD menu system is used to simplify the setup and adjustment of the DPR using a series of on-screen menus. The factory default setting for these menus leaves them on the screen for 20 seconds after a period of inactivity before they disappear from the screen or Time Out. This Time Out is a safety measure to prevent the menu text from burning into the CRTs in your monitor or projector, which might happen if they were left on indefinitely. However, some viewers may prefer a slightly longer or shorter period before the Time Out display.

To change the Full-OSD Time Out, you will need to make an adjustment in the ADVANCED SELECT menu (Figure 12). To start the adjustment, press the **OSD** button 22 to bring the MASTER MENU to the screen. Press the ▲ button 15, until the on-screen ▼ cursor is next to the ADVANCED line. Press the **Set** Button 16 to enter the ADVANCED SELECT menu (Figure 12).

At the ADVANCED SELECT menu make certain that the on-screen ▶ cursor is next to the FULL OSD TIME OUT line by pressing the ▲/▼ Buttons 15 as needed. Next, press the ◀/▶ buttons 15 until the desired time is displayed in seconds. Note that unlike most of the other options in this menu, this is a permanent setting change, and the time-out entry will remain in effect until it is changed, even when the unit is turned off.

If you wish to make other adjustments in the menu, press the ▲/▼ Buttons 15 until the on-screen ▶ cursor is next to the desired setting or the BACK TO MASTER MENU line and press the **Set** button 16. If you have no other adjustments to make, press the **OSD** Button 22 to exit the menu system.

Multiroom Operation

The DPR is fully equipped to operate as the control center for a complete multiroom system that is capable of sending one source to a second zone in the house while separate source is listened to in the main room. In addition to providing for control over the selection of the remote source and its volume, the DPR offers a comprehensive range of options for powering the speakers in the second zone.

• Using the line-level **Multiroom Audio Outputs** ⑧, the selected source may be fed to optional, external power amplifiers that may be matched to the specifics of the installation.

• When the main room system is configured for 5.1 operation, the Surround Back Left/Right amplifier channels may be used to power the remote zone so that no additional amplifiers are required.

• Using built-in A-BUS Ready technology, optional A-BUS modules may be connected to the DPR via a single Category Five wire, so that remote zone speakers may be powered directly from the module or keypad without the need for additional power, IR sensor or volume control wires to be run to the second zone.

In addition, the DPR includes a remote IR sensor input so that remote control commands from the Zone II remote included with the unit may be transmitted to the unit, while standard IR input/output jacks allow the remote zone's commands to be sent to compatible IR-controlled source devices.

Installation
Although simple remote room systems may be installed by the average do-it-yourself hobbyist, the complexity of your multizone/multiroom system involves running wires inside of walls where the services of a specially trained installer may be required. Regardless of who does the work, please remember that local building codes may govern in-wall electrical work, including proper specification of any wiring used and the way in which it is connected. You are responsible for making certain that all Multiroom installation work is done properly and in compliance with all applicable codes and regulations.

For standard installations, follow the instructions shown on page 16 and 18 for the connection of speaker wire and IR remote wiring to the DPR.

For installations where the Surround Back Left/Right amplifier channels are used to power the remote zone, make certain that the system is configured for that type of operation, as shown on page 40.

For installations where A-BUS modules are used, follow the instructions provided with the A-BUS remote modules or keypads.
Additional information will also be made available through the Harman Kardon Web Site at www.harmankardon.com.

RS-232 Control
The DPR is rare among A/V receivers in that it provides the capability for full remote control from compatible computers or specialized remote control systems. RS-232 programming requires specialized programming knowledge and for that reason we recommend that it only be done by qualified installers.

NOTE: The RS-232 port on this product is for use by authorized service personnel ONLY.

Multiroom Setup
Once the audio and IR link connections have been made, the DPR needs to be configured for multiroom operation using the steps below. Press the **OSD** button ㉒ to bring the MASTER MENU (Figure 1) to the screen. Press the ▲ button ⑮ twice, until the on-screen ▶ cursor is next to the MULTI-ROOM line. Press the **Set** button ⑯ to enter the MULTI-ROOM menu (Figure 13).

Figure 13

When the MULTI-ROOM menu appears, the on-screen ▶ cursor will be at the MULTI-ROOM line. Since this line is used to turn the system on and off, do not make an adjustment here unless you wish to turn the system on at this time. To turn the system on, press the ▶ button ⑮ so that ON is highlighted. If you do not wish to turn the system on at this time or to proceed to the next step, press the ▼ Button ⑮ once so that the ▶ on-screen cursor is next to the MULTI IN line.

At the MULTI IN line, press the ◀/▶ buttons ⑮ until the desired Audio/Video input to the multi-room system appears in the highlighted video.

In addition to the standard inputs, a choice is available labeled MAIN DOWNMIX. In all other cases, the feed to the multiroom system may be different from the input selected for the main room, but the input must be analog. When MAIN DOWNMIX is selected as the multiroom system input you may listen to an "Lt/Rt" stereo version of any digital source playing in the main room, such as Dolby Digital or DTS. You may also use this mode to listen to a source connected to the **8-Channel Direct Inputs** ⑩ in the remote zone, as long as the Dolby Pro Logic IIx mode is activated. Note, however, that when MAIN DOWNMIX is selected as the input for the multiroom system, the source sent to the remote room will change any time the main room input is changed.

When the selection has been made, press the ▼ button ⑮ once so that the ▶ on-screen cursor is next to the MULTI VOL line.

At the MULTI VOL line, press the ◀/▶ buttons ⑮ or hold them pressed until the desired volume level for the multi-room system is entered. DO NOT use the regular volume control knobs for this setting. When all settings for the multiroom setup have been made, press the ▼ buttons ⑮ once so that the on-screen ▶ cursor is next to the BACK TO MASTER MENU line and press the **Set** button ⑯. If you have no other adjustments to make, press the **OSD** button ㉒ to exit the menu system.

Multiroom Operation
When operating the DPR from a remote room location where an IR sensor link has been connected to the DPR's rear panel **Multiroom IR Input** ㉕, you may use either the Main remote control or the Zone II remote. To turn on the multiroom feed, press any of the **Input Selector** buttons on the Zone II remote ⒷⒸⒹ or the Main remote ❺❻❼. Press the **AVR Selector** ❻Ⓑ to turn the unit on to the last source, or any of the other Selector buttons to turn on to a specific source.

As long as an IR feed to the DPR has been established from the remote room, using any of the buttons on either remote will control the remote location volume ㊵❶, change the tuner frequency ㉑Ⓔ, change the tuner preset ㉝Ⓖ or mute the output ㊸●.

If the **Remote IR Output** jack ㉓ on the DPR is connected to an IR Input jack on compatible Harman Kardon audio components such as CD, DVD or cassette players, the transport functions of those machines may also be controlled using the **Transport Controls** ㉖㉘ⒺⒻⒼⒽⒿ on either remote control.

To turn the system off from the remote room, press the **Power-Off** button ❶Ⓐ. Remember that the DPR may be turned on or off from the remote room regardless of the system's operation or status in the main room.

NOTE: When the tuner is selected as the source for the remote zone, any change to the frequency or preset will also change the station being listened to in the main room, if the tuner is in use there. Similarly, if someone in the main room

changes the station, the change will also impact the remote room.

To activate the feed to the remote room, press the **Multiroom** button 39 on the remote. Next, press the **Set** button 16. Press the ▲/▼ buttons 15 to turn the multiroom feed on or off. When the multiroom system is on, the **Main Information Display** 29 or OSD will display MULTI ON. Press the **Set** button 16 twice to enter the setting.

IMPORTANT NOTE: When an A-BUS module is connected, the DPR's Multiroom system must be turned on before the A-BUS module is able to communicate with the DPR. Once turned on using the instructions in the preceding paragraph, the Multiroom system must remain on in order for the A-BUS module to operate.

When the unit is in the Standby mode, but ready for Multiroom or A-BUS operation, the lighting around the **Standby/On Switch** 3 remains blue and a MULTI ON message appears in the **Lower Display Line** 29, even though the unit is "off" in the main listening room.

When the multiroom system is turned on, the input selected using the Multiroom Menu will be fed to the **Multiroom Output** jacks 8 on the rear panel as well as the **A-BUS Jack** 9. The volume will be as set in the same menu, although it may also be adjusted using an optional IR sensor and the Zone II remote in the remote location or on the optional audio power amplifier connected to the **Multiroom Output** jacks 8.

Although changes to the input source or remote room volume will normally be made using an IR sensor in the remote room that is connected to the DPR, it is also possible to change those settings from the main listening room. This is useful for situations where some or all of the remote rooms do not have an IR sensor, or to take control over the remote room without actually being in that room.

In addition to using the MULTIROOM menu, as shown on the previous page, you may change the source or volume in the remote zone using the remote. Press the **Multiroom Button** 39 on the remote, and when the MULTI ON/OFF message appears in the on-screen display and the **Lower Display Line** 29, press the **Set Button** 16 and then press the ▲/▼ **Navigation Button** 15 to toggle past that message to MULTI LEVEL or MULTI INPUT.

To change the remote room's input source, when MULTI INPUT appears, press the **Set Button** 16, and then press the ▲/▼ **Navigation Button** 15 until the desired input appears in the on-screen display and in the **Lower Display Line** 29.

To change the remote room's volume, when MULTI LEVEL appears, press the **Set Button** 16, and press the ▲/▼ **Navigation Button** 15 to change the volume setting. Note that this volume adjustment controls the level for the output to the **Multiroom Audio Outputs** 8 and for any speakers connected to the Surround **Back/Multiroom Speaker Outputs** 39 when the Surround Back amplifier channels are configured for Multiroom use, as shown on page 40. This adjustment does NOT change the volume level for any room where an ABUS module is used, as that setting is only adjustable using the A-BUS module's volume control or built-in IR sensor.

Once the multiroom system is turned on, it will remain on even if the DPR is placed in the Standby mode in the main room by pressing the **Power Off Button** 1 or the **System Power Control** 2 on the front panel. To turn off the multiroom system from the main listening room, when the DPR is on press the **Multiroom** button 39 and then the Set button 16. Press the ▲/▼ buttons 15 so that the **Main Information Display** 29 or OSD will display MULTI OFF.

Even when the DPR is turned off (to Standby mode) and the multiroom system is turned off too, the multiroom system may be turned on at any time by pressing the **Multiroom** button 39, or any of the **Selector** buttons BC D in the remote room.

NOTES ON MULTIROOM OPERATION:

• The Zone II remote does not contain a button for the front-panel Video 5 input, but you may select that source for the Multiroom system using the MULTI-ROOM SETUP menu or an optional remote that has been programmed with the code for the Video 5 button from the DPR's main remote control.

• In addition to the Zone II remote supplied with your DPR, you may use the main remote control or any remote programmed with Harman Kardon codes. Note, however, that only the remote codes applicable to the remote room system or the operation of source devices will function. Buttons used to change other "Main Room" listening functions such as surround mode changes will not work with the multiroom system.

Basic Tuner Operation

The DPR's tuner is capable of tuning AM, FM and FM Stereo broadcast stations and receiving RDS data. Stations may be tuned manually, or they may be stored as favorite station presets and recalled from a 30 position memory.

Station Selection

1. Press the **AM/FM Tuner Select** button 7 on the remote to select the tuner as an input. The tuner may be selected from the front panel by either pressing the **Input Source Selector** 15 until the tuner is active or by pressing the **Tuner Band Selector** 11 at any time.

2. Press the **AM/FM Tuner Select** button 7 or **Tuner Band Selector** 11 again to switch between AM and FM so that the desired frequency band is selected.

3. Press the **Tuner Mode** button 19 on the remote or hold the **Band Selector** 11 on the front panel pressed for 3 seconds to select manual or automatic tuning.

When the button is pressed so that AUTO appears in the **Main Information Display** 29 each press of the **Tuning Selectors** 8 21 will put the tuner in a scan mode that seeks the next higher or lower frequency station with acceptable signal strength. An AUTO ST TUNED indication will momentarily appear when the station stops at a stereo FM station, and an AUTO TUNED indication will momentarily appear when an AM or monaural FM station is tuned. Press the Tuning buttons again to scan to the next receivable station.

When the button is pressed so that MANUAL appears in the **Main Information Display** 29 each tap of the Selector will increased or decrease the frequency by one increment. When the tuner receives a strong enough signal for adequate reception, MANAUL TUNED will appear in the **Main Information Display** 29.

4. Stations may also be tuned directly by pressing the **Direct** button 20, and then pressing the **Numeric Keys** 18 that correspond to the station's frequency. Note that for entering numbers higher than 100 you need to enter only the "1" rather than "10", the first "0" will be added automatically. The desired station will automatically be tuned after the latest number is entered. If you press an incorrect button while entering a direct frequency, press the **Clear** button 34 to start over.

NOTE: When the FM reception of a stereo station is weak, audio quality will be increased by switching to Mono mode by pressing the **Tuner Mode** button 19 on the remote or holding the **Band Selector** 11 on the front panel so that MANUAL appears momentarily in the **Main Information Display** 29 and then goes out.

Preset Tuning
Using the remote, up to 30 stations may be stored in the DPR's memory for easy recall using the front panel controls or the remote.

To enter a station into the memory, first tune the station using the steps outlined above. Then:

1. Press the **Memory** button 35 on the remote. Note that two underscore lines will appear in the **Main Information Display** 29.

2. Within five seconds, press the **Numeric Keys** 18 corresponding to the location where you wish to store this station's frequency. Once entered, the preset number will appear in the **Main Information Display** 29.

3. Repeat the process after tuning any additional stations to be preset.

Recalling Preset Stations
• To manually select a station previously entered in the preset memory, press the **Numeric Keys** 18 that correspond to the desired station's memory location.

• To manually tune through the list of stored preset stations one by one, press the **Preset Stations Selector** buttons 13 33 on the front panel or remote.

RDS Operation

The DPR is equipped with RDS (Radio Data System), which brings a wide range of information to FM radio. Now in use in many countries, RDS is a system for transmitting station call signs or network information, a description of station program type, text messages about the station or specifics of a musical selection, and the correct time.

As more FM stations become equipped with RDS capabilities, the DPR will serve as an easy-to-use center for both information and entertainment. This section will help you take maximum advantage of the RDS system.

RDS Tuning
When an FM station is tuned in and it contains RDS data, the DPR will automatically display the station's call sign or other program service in the **Main Information Display** 29.

RDS Display Options
The RDS system is capable of transmitting a wide variety of information in addition to the initial station call sign that appears when a station is first tuned. In normal RDS operation the display will indicate the station name, broadcast network or call letters. Pressing the **RDS** button 16 32 enables you to cycle through the various data types in the following sequence:

- The station's call letters (with some private stations other information too).
- The station's frequency (FREQ).
- The Program Type (PTY) as shown in the list below.

NOTE: Many stations do not transmit a specific PTY. The display will show NONE, when such a station is selected and PTY is active.

- A "text" message (Radiotext, RT) containing special information from the broadcast station. Note that this message may scroll across the display to permit messages longer than the eight positions in the display. Depending on signal quality, it may take up to 30 seconds for the text message to appear; in that time, the word TEXT will flash in the Information Display when RT is selected.
- The current time of day (CT). Note that it may take up to two minutes for the time to appear, in that time the word TIME will flash in the information display when CT is selected. Please note that the accuracy of the time data is dependent on the radio station, not the DPR.

Some RDS stations may not include some of these additional features. If the data required for the selected mode is not being transmitted, the **Main Information Display** 29 will show a NO TYPE, NO TEXT or NO TIME message after the individual time out.

In any FM mode the RDS function requires a strong enough signal for proper operation.

Program Search (PTY)
An important feature of RDS is its capability of encoding broadcasts with Program Type (PTY) codes that indicate the type of material being broadcast. The following list shows the abbreviations used to indicate each PTY, along with an explanation of the PTY:

- (RDS ONLY)
- (TRAFFIC)
- NEWS: News
- AFFAIRS: Current Affairs
- INFO: Infomation
- SPORT: Sports
- EDUCATE: Educational
- DRAMA: Drama
- CULTURE: Culture
- SCIENCE: Sciencek
- VARIED: Varied Speech Programs
- POPM: Popular Music
- ROCKM: Rock Music
- M.O.R.M.: Middle-of-the-Road Music
- LIGHTM: Classical Music
- CLASSICS: Serious Classical Music
- OTHERM: Other Music
- WEATHER: Weather Information
- FINANCE: Financial Programs
- CHILDREN: Children's Programs
- SOCIAL A: Social Affairs Programs
- RELIGION: Religious Broadcasts
- PHONE IN: Phone-In Programs
- TRAVEL: Travel and Touring
- LEISURE: Leisure and Hobby
- JAZZ: Jazz Music
- COUNTRY: Country Music
- NATIONAL: National Music
- OLDIES: Oldies Music
- FOLK M: Folk Music
- DOCUMENT: Documentary Programs
- TEST: Emergency Test
- ALARM: Emergency Broadcast Information

You may search for a specific Program Type (PTY) by following these steps:

1. Press the **RDS** button 16 32 until the current PTY is shown in the **Main Information Display** 29.

2. While the PTY is shown, press the **Preset Up/Down** button 13 33 or hold them pressed to scroll through the list of available PTY types, as shown above starting with the PTY currently received. To simply search for the next station transmitting any RDS data, use the **Preset Up/Down** button 13 33 until RDS ONLY appears in the display.

3. Press any of the **Tuning Up/Down** buttons 10 21, the tuner begins to scan the FM band upwards or downwards for the first station that has RDS data that matches the desired selection, and acceptable signal strength for quality reception.

4. The tuner will make up to one complete scan of the entire FM band for the next station that matches the desired PTY type and has acceptable reception quality. If no such station is found, the display will read NONE for some seconds and the tuner will return to the last FM station in use before the search.

NOTE: Some stations transmit constant traffic information. These stations can be found by selecting TRAFFIC, the option in front of NEWS in the list. The DPR will find the next appropriate station, even if it is not broadcasting traffic information when the search is made.

Configuring the Remote

The DPR 2005 remote is factory-programmed for all functions needed to operate the unit. In addition, it is also preprogrammed to operate most recent Harman Kardon DVD players and changers, CD players and changers, CD recorders and cassette decks. The codes for other brand devices may be programmed into the DPR 2005 remote using its extensive library of remote codes or a head-to-head learning process for codes not in the internal library.

Thanks to the remote's advanced technology and two-line LCD display, it is no longer necessary to look up cumbersome codes when programming the remote; following the steps outlined below, you simply search for the brand name from the remote's memory. We recommend that you first try the preprogrammed code entry method. If that procedure is not successful, then try the code learning method.

Preprogrammed Code Entry

The easiest way to program the DPR remote for operation with a source device from another brand is to follow these steps:

1. Turn on the power to the device you wish to program into the DPR remote. This is important, as in a later step you will need to see whether the device turns off to determine whether the remote has been programmed for the proper remote codes.
2. Press and hold the **Program Button** 37 for about three seconds while the message shown in Figure 15 appears in the remote's LCD **Information Display** 3. Release the button when the red light under the **Set Button** 16 appears.

Figure 15

3. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** 16 will remain illuminated in red. Press the **Set Button** 16 to begin the process of selecting a device and locating the proper remote codes.

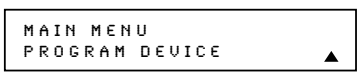

Figure 16

4. SELECT A DEVICE will appear in the LCD display (Figure 17).
Press the ▲▼ **Navigation Buttons** 15 to scroll through the list of device categories and press the **Set Button** 16 when the device you wish to set the codes for appears.

For this example, we will select "TV" to enter the codes needed to operate your TV.

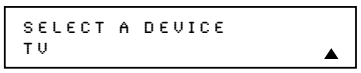

Figure 17

NOTE: The codes for hard-drive recorder products (PVR) such as TiVo and Replay are programmed by selecting VCR as the device. For satellite-based TiVo products, check under the brand name of the product.

5. At the next menu screen on the remote (Figure 18) press the **Set Button** 16 to enter the Manual mode, which means that you will select the brand name of the device from the list programmed into the remote's memory.

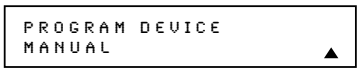

Figure 18

6. The next menu screen on the remote (Figure 19) will show the start of the list of available brands. Press the ▲▼ **Navigation Buttons** 15 until the brand name of the device you are programming into the remote appears on the lower line of the display and then press the **Set Button** 16.

Figure 19

NOTE: If the brand name for the product you wish to program does not appear in the list, the codes may still be available, as some manufacturers share codes. If the desired brand is not listed, press the **Clear Button** 34 to exit the programming process, and skip to the instructions shown on page 47 for the "Automatic" method of programming the remote. If desired, or if the codes for your brand are not part of the remote's library at all, you may still use the DPR remote to program most infrared-controlled products by "learning" the commands from the product's original remote into the DPR remote. The instructions for Learning Commands are on page 47.

7. The next step is important, as it determines which codes will operate the source device or display. Point the DPR remote at the device being programmed and, following the instructions shown in the remote's **LCD Information Display** 3, press and release the **Numeric Keys** 18 shown on the menu screen (Figure 20) one at a time, starting with the "**1**" button. After you press the "**1**" **Button** 18, the remote's LCD screen will briefly go blank as the code is being transmitted, but you will see the "transmit" icon in the upper right corner of the display to serve as confirmation that the remote is sending out commands.

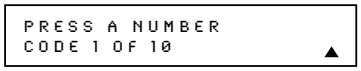

Figure 20

8. After you press and release the number key, watch the device being programmed to see whether it turns off. As shown in the instructions that will appear on the next menu screen (Figure 21), if your device has turned off, press the **Set Button** 16, and then skip to Step 10. If the unit does not turn off, proceed to the next step.

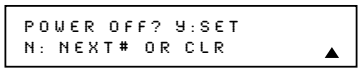

Figure 21

9. If the device being programmed into the DPR remote does not turn off after you have pressed the "1" key, continue Steps 8 and 9 by pressing the available numeric keys shown until the device turns off. If the device still does not turn off after all choices have been tried, or if there is only one number key shown as available to try, the code for this specific device is not in the DPR remote library under that brand name. If that is the case, press the **Clear Button** 34 to exit the manual programming mode. Remember that the codes may still be stored in the DPR remote's library under another brand, and you can have the remote control search for them by following the instructions below for automatic programming. You may also manually "learn" the codes for most devices into the DPR remote by following the Learning Commands instructions on page 47.
10. When the device being programmed does turn off after a numeric key has been pressed, you must press the **Set Button** 16 within five seconds to enter the setting into the remote's memory. After you press the Set button, the top line of the LCD display will read SAVING... and then the word SAVED will flash four times in the center of the bottom line.
11. When the codes are saved the remote will return to normal operation, and whenever you press the **Input Selector Button** 5 that was just programmed, the codes for the new device will be used. If no further buttons are pressed, the remote will revert back to the default setting for DPR commands.

NOTE: Some brands share a common remote control code for "Power Off" for many models. For that reason it is possible that even though the remote appears to be properly programmed, you may find that some buttons do not appear to issue the correct command. If this is the case, repeat the procedure outlined above, but if more than one numeric key selection is suggested in Step 7, try a different number to see whether the remote operates correctly.

Although the DPR remote is preprogrammed with an extensive library of codes for many major brands, it is also possible that you may have attempted to program a product that is too new or too old, and thus not all of its commands will be in the code library. You may fill in the codes for any button that does not operate properly by using the learning technique shown on page 47.

Automatic Code Entry

In addition to manual code selection using the brand name list, it is also possible to automatically search through all the codes that are stored in the DPR remote's library to see whether a device will respond even if it is not listed among the brands that appear when you program the remote manually. To automatically search through the codes that are available for a specific device type (e.g., DVD, VCR), follow these steps:

1. Turn on the power to the device you wish to program into the DPR remote. This is important, as in a later step you will need to see whether the device turns off to determine whether the remote has been programmed for the proper remote codes.
2. Press and hold the **Program Button** ㊲ for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** ③. Release the button when the red light under the **Set Button** ⑯ appears.
3. The remote's MAIN MENU message (Figure 16) will appear in the LCD display and the **Set Button** ⑯ will remain illuminated in red. Press the **Set Button** ⑯ to begin the process of selecting a device and locating the proper remote codes.
4. SELECT A DEVICE will appear in the LCD display (Figure 17).
   Press the ▲▼ **Navigation Buttons** ⑮ to scroll through the list of device categories and press the **Set Button** ⑯ when the device for which you wish to set the codes appears. For this example, we will select "TV" to enter the codes needed to operate your TV.
5. At the next menu screen on the remote (Figure 18), press the ▲ **Navigation Buttons** ⑮ so that the bottom line of the LCD display reads AUTO (Figure 22) and then press the **Set Button** ⑯ to enter the Automatic programming mode.

```
PROGRAM DEVICE
AUTO                    ▲
```

Figure 22

6. As instructed on the next menu screen, press the ▲ **Navigation Buttons** ⑮ to begin the automatic code search process. Your confirmation that the remote is sending out commands is the movement of a square block across the top line of the LCD display screen while the bottom line reads PLEASE WAIT…. You will also see the transmit icon in the upper right corner of the LCD display's top line to remind you that the remote is working even though you may not see anything happening to the device being programmed.
7. It will take a few seconds for the remote to send out the first group of commands, after which you will see a new display in the LCD screen, as shown in Figure 23. Following the instructions, if the device being programmed has NOT turned off, press the ▲ **Navigation Buttons** ⑮ again to send another group of codes. If the device being programmed has turned off, skip to Step 9.

```
POWER OFF?
Y-> 1~0 N->             ▲
```

Figure 23

8. By pressing the ▲ **Navigation Buttons** ⑮ again, the remote will send out a new set of commands. When it pauses, follow the instructions shown in Step 7. Depending on how many codes are stored for a specific device type, you may have to repeat this process as many as fifteen times. Remember, if the device turns off, skip to Step 9. When all the codes for the device being programmed have been tried, the instruction shown in Figure 24 will appear. This means that the codes for the product you are trying to program are not in the DPR remote library and you will have to "learn" them into the remote following the instructions shown on page 47. Press the **Set Button** ⑯ as instructed to exit the programming process.

```
REACH END POINT
EXIT -> SET KEY
```

Figure 24

9. If the device being programmed does turn off after following the instructions in Step 7, you will need to verify the code set by pressing the **Numeric Keys** ⑱ in sequence, as instructed in Figure 23. Point the remote at the device being programmed, and press the "**1**" **Button** ⑱ to see whether the device turns back on.
10. After pressing and releasing the "**1**" **Button** ⑱, check to see whether the device has turned back on. If it has, skip to Step 12. If it does not turn on, press the "**2**" **Button** ⑱, or the next button in the numeric sequence if you are repeating the procedure, as instructed by the LCD screen in Figure 25.

```
POWER ON?
Y->SET N->1~0
```

Figure 25

11. When pressing the "1" button does not turn the device being programmed back on, repeat the procedure by trying the remainder of the **Numeric Keys** ⑱ in sequence, each time pressing and then releasing the button to see whether the new device turns back on. When it does, skip to the next step. However, if you try all 10 numeric keys and find that the unit will not turn on, you won't be able to use this method to program the device. Press the **Clear Button** ㉞ to exit the programming process. You'll need to follow the Learning Commands instructions below to enter the codes for this device into the DPR remote.
12. When pressing one of the numeric keys in Step 10 or 11 causes the device being programmed to turn back on, follow the instructions shown in Figure 22 and press the **Set Button** ⑯ within five seconds of the device turning on. After you press the Set button, the top line of the LCD display will read SAVING… and then the word SAVED will flash four times in the center of the bottom line.
13. When the codes are saved, the remote will return to normal operation, and whenever you press the Input **Selector Button** ⑤ that was just programmed, the codes for the new device will be used. If no further buttons are pressed, the remote will revert back to the default setting for DPR commands.

Learning Commands

On occasions when the DPR remote does not contain the codes for a particular product's remote in its built-in library, or when you wish to program a missing or special function into one button of a device, the DPR remote's learning capability allows you to do that. To teach commands from one product's remote into the DPR remote, follow these steps:

The process requires that both the device's original remote and the DPR remote be available. Before pressing any buttons on either remote, place them so that the IR transmitter on the remote from the device to be programmed is facing the **Infrared Lens** ② on the DPR's remote. The two remotes should be no more than an inch apart, and there should not be any direct sunlight or other bright light source near the remotes.

1. Press and hold the **Program Button** ㊲ for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** ③. Release the button when the red light under the **Set Button** ⑯ appears.
2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** ⑯ will remain illuminated in red. Press the ▲ **Navigation Buttons** ⑮ once so that Learn appears on the bottom line

of the LCD screen, as shown in Figure 26. Press the **Set Button** 16 to begin the process of learning commands from another device's remote into the DPR remote.

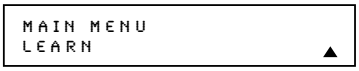

Figure 26

3. The SELECT A DEVICE message will appear in the LCD display (Figure 17). Press the ▲▼ **Navigation Buttons** 15 to scroll through the list of device categories and press the **Set Button** 16 when the device for which you wish to set the codes appears. For this example, we will select "TV" to enter the codes needed to operate your TV.
4. The next menu screen (Figure 27) will prompt you to select the button, or "key," on the DPR remote that you wish to program. Press that button on the DPR remote.

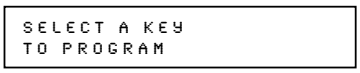

Figure 27

5. Once you press the button to be programmed on the DPR remote, press and hold the button on the remote control for the device to be programmed within five seconds, as instructed on the next menu screen (Figure 28).

Figure 28

6. Continue to hold the button on the original remote until the menu on the DPR remote's LCD screen changes. If the code is successfully learned you will see the display shown in Figure 29. If you see that menu, proceed to Step 9. If the code is not successfully learned, you will see the display shown in Figure 30. If that menu appears, proceed to Step 7.

Figure 29

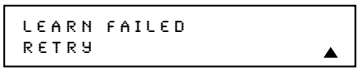

Figure 30

7. If the message shown in Figure 26 appears in the display, press the **Set Button** 16 to try programming the button again. When the remote prompts you to press and hold the key on the original remote again by showing the display shown in Figure 28, immediately press the button on the source remote again. To avoid another failed attempt, make certain that the windows on the two remotes are facing one another.
8. Continue to hold the button on the original remote until the DPR's display changes again. If the code was successfully learned, you will see the display shown in Figure 25. In that case, skip to the next step. If the LEARN FAILED display (Figure 30) appears again you may either try to program the key again, or press the ▲ **Navigation Buttons** 15 to stop the process. It is possible that some remotes may use code sequences or infrared frequencies that are not compatible with the DPR remote, and those codes cannot be learned. When the display shown in Figure 31 appears, press the **Set Button** 16 to exit the Learning system.

Figure 31

9. When a code has been learned successfully, you have three options. When the display shown in Figure 29 is on the LCD screen on the DPR remote, you may press the **Set Button** 16 to learn additional codes from the buttons on a remote into the DPR remote. Follow Steps 4 through 8 as often as needed to complete the code-learning process.
10. If you wish to change the name that appears in the LCD display when the button that has just had a new code learned is pressed, press the ▲ **Navigation Buttons** 15 so that the display shown in Figure 32 appears in the LCD display. Press the **Set Button** 16 to open the RENAME KEY menu. Enter the new name for the key following the instructions shown in the Renaming Individual Keys section of this manual on page 48. If you find it more convenient to rename the buttons at a later time, you may do that separately by following the instructions on page 53.

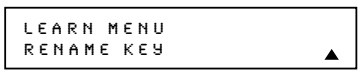

Figure 32

11. When you have programmed all keys for the desired device, press the ▲ **Navigation Buttons** 15 twice when the LEARN MENU (Figure 29) appears so that you see the display show in Figure 33. The remote will return to normal operation.

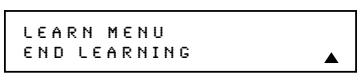

Figure 33

12. If you wish to program the codes for another device, repeat the procedure outline above, but select a different device in Step 3.

Changing Devices

In the factory default settings, the DPR remote is programmed so that the commands transmitted correspond to the device selected by pressing one of the **Input Selectors** 5. This is logical, as you want the remote to control the device you have selected. However, in some circumstances you may have configured your system so that the devices connected to the DPR do not correspond to the default device settings and the legends printed on the remote. For example, if your system has two VCRs you may connect the second VCR to the VID 2 input. There is no problem in doing that, but in normal operation the commands issued after selecting the VID 2 input are for a television, not a VCR.

The DPR remote allows you to correct that situation through the "Changing Devices" process. That enables you to assign the codes from one type of device to a different button. For example, in the steps below, we will explain how to program the VID 2 buttons to provide the commands to operate a VCR. Of course, you may program the remote to have any of the devices take on the code set of any other device, as your system requires. And, with the DPR remote's "Rename" function, you can even change the way the name of the device appears on the remote's LCD display so that you see exactly which commands are being sent.

To program the buttons normally assigned to one device for the commands of another, follow these steps:

1. Press and hold the **Program Button** 37 for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** 3. Release the button when the red light under the **Set Button** 16 appears.
2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** 16 will remain illuminated in red. Press the ▲ **Navigation Buttons** 15 twice so that CHANGE DEVICE appears on the bottom line of the LCD screen, as shown in Figure 34. Press the **Set Button** 16 to begin the process of reassigning the commands used for a particular device.

Figure 34

3. The next menu display is where you select the Input Select, or device, that you wish to change. When the display shown in Figure 35 appears, press the ▲▼ **Navigation Buttons** 15 to scroll through the list to find the device you wish to use for another function. In this case we will select "TV," and show how to change it to take on the codes for operating a VCR. When that device's name appears, press the **Set Button** 16.

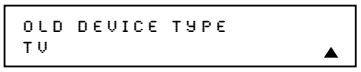

Figure 35

4. Once the "old" device type has been selected, you need to tell the remote which set of remote codes to use as a replacement for the device just selected. When the instructions shown in Figure 36 appear, press the ▲▼ **Navigation Buttons** ⑮ to scroll through the list of device categories to find the name of the device that you wish to use. The old device name will remain on the left side of the LCD screen, while the replacement device list will scroll to its right. For example, press the ▲ **Navigation Buttons** ⑮ until the display screen reads TV<-VCR to have the VID 2/TV Button transmit the commands used to control a VCR. Press the **Set Button** ⑯ when the desired device combination appears.

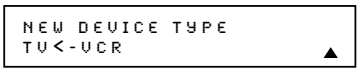

Figure 36

5. Once the new device is selected, the remainder of the process will select the codes for the specific brand to be used, and for that reason they are identical to the way a device is programmed using manual entry. Continue the process as outlined in the next few steps, remembering that if the codes for your specific device are not found you may select any brand and then "learn" the proper codes into the DPR remote using the process outlined on page 47. To begin the process, start by selecting the brand of device, as shown in Figure 19. Press the ▲▼ **Navigation Buttons** ⑮ until the brand name of the device you are programming into the remote appears on the lower line of the display and then press the **Set Button** ⑯.

6. The next step is important, as it determines which codes will operate the source device or display. Point the DPR remote at the device being programmed and, following the instructions shown on the remote's **LCD Information Display** ③, press and release the **Numeric Keys** ⑱ one at a time, starting with the "1" button. After you press the "**1**" **Button** ⑱ the remote's LCD screen will briefly go blank as the code is being transmitted, but you will see the "transmit" icon in the upper right corner of the display to serve as confirmation that the remote is sending out commands.

7. After you press and release the number key, watch the device being programmed to see whether it turns off. As shown in the instructions that will appear on the next menu screen (Figure 21), press the **Set Button** ⑯, and then skip to Step 9. If the unit does not turn off, proceed to the next step.

8. If the device being programmed into the DPR remote does NOT turn off after you have pressed the "1" key, continue Steps 6 and 7 by pressing the available numeric keys shown until the device turns off. If the device still does not turn off after all choices have been tried, the code for this specific device is not in the DPR remote library under that brand name. If that is the case, we suggest that you press the **Set Button** ⑯ to accept the codes from another brand so that the programming is completed, but remember that you will then have to program the remote manually by following the Learning Commands instructions on page 47.

9. When the device being programmed does turn off after a numeric key has been pressed, you must press the **Set Button** ⑯ within five seconds to enter the setting into the remote's memory. After you press the Set button, the top line of the LCD display will read SAVING... and then the word SAVED will flash four times in the center of the bottom line.

10. When the codes are saved the remote will return to normal operation, and whenever you press the **Input Selector Button** ⑤ that was just programmed, the display will show the original device type code at the far left side of the display, with the name of the new code set type in brackets. For example, the display will read TV<-VCR in our example of replacing the TV codes with those for a VCR.

Macro Programming

Macros enable you to easily repeat frequently used combinations of multiple remote control commands with the touch of a single button. Once a macro is programmed you may send up to 20 commands with one press of the Power On or Macro buttons. This will greatly simplify the process of turning on your system, changing devices or other common tasks. Thanks to the remote's two-line display, it is easier than ever for you to take advantage of the power of macro commands.

Recording a Macro

To record a macro into the remote's memory, follow these steps:

1. Press and hold the **Program Button** ㊲ for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** ③. Release the button when the red light under the **Set Button** ⑯ appears.

2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** ⑯ will remain illuminated in red. Press the ▲ **Navigation Buttons** ⑮ three times so that MACRO appears on the bottom line of the LCD screen, as shown in Figure 37. Press the **Set Button** ⑯ to enter the main macro menu branch.

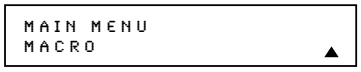

Figure 37

3. At the next menu screen (Figure 38) press the **Set Button** ⑯ to begin recording a macro.

Figure 38

4. The next display screen (Figure 39) is where you select the button that will be used to recall the macro. The choices are the **Power On Button** ④ or one of the discrete **Macro Buttons** ㉛. Press the ▲▼ **Navigation Buttons** ⑮ until the name of the button you wish to program the macro into is shown. For this example we will show how to program a series of commands that will automatically be sent out every time the Power button is pressed.

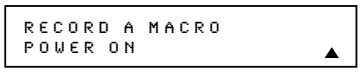

Figure 39

5. The next screen that appears (Figure 40) is where you select the device for the first command that will be sent out as part of the macro. Press the ▲▼ **Navigation Buttons** ⑮ until the name of the device appears on the left side of the lower line in the LCD display. For this example, the first button we want to have the macro "press" is the Power On button, so the DPR device is selected. Press the **Set Button** ⑯ when the desired device name appears to move to the next programming step.

Figure 40

6. The next display (Figure 41) is where you begin entering the individual commands for the macro, in the order you wish them to be transmitted. Remember that when you want to change devices, you must first press the **Input Selector** ⑤⑥ for that button, and then press the Command or Function key. Since we want to program a series of events that occur each time the Power On button is pressed, press the DPR button. In your specific macro, this is the first command button.

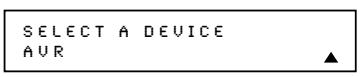

Figure 41

7. The next display (Figure 42) and the subsequent screens are where the actual macro programming take place. The words at the left side of the top line of the display show the button that is being programmed (e.g., the **Power On Button** 4 or one of the **Macro Buttons** 31) and the indication at the right side of the top line shows the number of macro steps available of 20 possible steps. Following the instructions on the remote's LCD screen, press the first key you wish to be transmitted in the macro. In our example, we first want the DPR to turn on, so the **Power Button** 4 should be pressed.

```
POWER ON    00/20
SELECT KEY PRESS
```

Figure 42

8. Once the first command button for the macro has been pressed, continue to press the buttons you wish to be part of the macro, in the order they will be used. Press each button within five seconds of the last button, remembering to press the **Input Selector** 5 6 when you are changing device functions. As the buttons on the remote are pressed, the remote's display screen will show the steps in the macro as they are programmed (Figure 43).

```
[AVR]
[AVR] POWER ON
```

Figure 43

9. For our example, we first want the DPR Power On button pressed, followed by the TV Power On, followed by the Cable Box On, followed by the selection of the Logic 7 mode. To do that, press the buttons in this order:

   - **Power On** 4
   - **VID 2/TV** 5
   - **Power On** 4
   - **VID 3/Cable** 5
   - **Power On** 4
   - **AVR** 6
   - **Logic 7** 25

   As each button is pressed to enter it into the macro you will see the button names appear and then scroll up on the LCD display as your confirmation of the key entry (Figure 43).

10. When all commands for the macro have been entered, press the **Set Button** 16 to save the macro. The display screen will show the button to which the macro has been programmed and the number of steps used, and the word SAVED will blink four times in the lower line of the LCD display. When the display returns to normal, the macro has been entered and the remote is ready for operation.

11. If a macro has been programmed into the **Power On Button** 4, it will play back anytime the Power On button is pressed. As the macro plays, you will see the steps appear in the remote's LCD display. Macros programmed into one of the four discrete Macro buttons may be activated at any time by pressing the appropriate button.

Erasing a Macro

Once a macro has been created and stored in the DPR remote's memory, you have the option of erasing it. You may do this at any time by following these steps:

1. Press and hold the **Program Button** 37 for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** 3. Release the button when the red light under the **Set Button** 16 appears.

2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** 16 will remain illuminated in red. Press the ▲ **Navigation Buttons** 15 three times so that MACRO appears on the bottom line of the LCD screen, as shown in Figure 37. Press the **Set Button** 16 to enter the main macro menu branch.

3. At the next menu screen (Figure 44) press ▲▼ **Navigation Buttons** 15 until the bottom line in the remote's LCD display reads ERASE A MACRO, as shown in Figure 44. Press the **Set Button** 16 to begin the process of erasing a macro.

```
MACRO
ERASE A MACRO                ▲
```

Figure 44

4. The next display screen (Figure 45) is where you select which macro will be erased. Press the ▲▼ **Navigation Buttons** 15 until the number of the macro you wish to erase appears. For this example we will erase the Power On macro created in the previous section. When the name of the macro to be erased appears, press the **Set Button** 16.

```
ERASE A MACRO
POWER ON                     ▲
```

Figure 45

5. The word ERASED will flash four times in the bottom line of the remote's LCD display, and then the display will return to its normal condition. When that happens the macro is erased and the remote is returned to normal operation.

Read a Macro

To check the commands stored in the remote's memory for one of the buttons, follow these steps:

1. Press and hold the **Program Button** 37 for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** 3. Release the button when the red light under the **Set Button** 16 appears.

2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** 16 will remain illuminated in red. Press the ▲ **Navigation Buttons** 15 three times so that MACRO appears on the bottom line of the LCD screen, as shown in Figure 37. Press the **Set Button** 16 to enter the main macro menu branch.

3. At the next menu screen (Figure 46) press the ▲▼ **Navigation Buttons** 15 until the bottom line in the remote's LCD display shows READ A MACRO, as shown in Figure 46. Press the **Set Button** 16 to begin the process of erasing a macro.

```
MACRO
READ A MACRO                 ▲
```

Figure 46

4. The next display screen (Figure 47) is where you select the macro to be read. Press the ▲▼ **Navigation Buttons** 15 until the name of the macro you wish to read appears. For this example, we will read back the Power On macro created in the previous section. When the name of the macro to be erased appears, press the **Set Button** 16.

```
READ A MACRO
POWER ON                     ▲
```

Figure 47

5. As soon as the Set button is pressed, the first two steps in the macro will be appear in the remote's LCD screen. You may then use the ▲▼ **Navigation Buttons** 15 to step up or down through the list of commands stored as the macro. As you read the display, you will see **Device Selector Buttons** 5 6 appear in brackets, (e.g., [DPR]). When the step in the macro is a function, navigation or any other button, it will appear next to the bracketed read-out of the underlying device (e.g., [DPR] POWER ON).

6. When you are finished reviewing the macro's contents, press the **Set Button** 16 to return the remote to normal operation.

Punch-Through Configuration

Punch-through is a capability of the remote that allows the Volume controls, Channel Up/Down buttons or Transport keys (Play, Stop, Record, Fast Forward and Reverse, and Skip Up/Down) to link to a different device. For example, if your TV, cable box or satellite receiver is connected through the DPR you will most likely want to use the DPR's volume control commands even when the remote has been set to issue all other commands for the video device. "Punch-through" enables you to easily program the remote to do this.

Volume Punch-Through
Follow these steps to enable the Volume Up/Down and Mute controls from one device to be used when the remote is otherwise programmed for a different device.

Note for Volume Punch-Through:
The remote's default settings are for the DPR's volume controls to be used when any input or device is selected with the exception of the VID 2/TV button. There is no need to program the remote for volume punch-through for the DPR's controls with other sources, such as DVD. To have the DPR's volume commands used when the TV device is selected, follow these steps:

1. Press and hold the **Program Button** 37 for about three seconds while the message shown in Figure 15 appears in the remote's LCD Information Display 3. Release the button when the red light under the **Set Button** 16 appears.
2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** 16 will remain illuminated in red. Press the ▲▼ **Navigation Buttons** 15 until PUNCH-THROUGH appears on the bottom line of the LCD screen, as shown in Figure 48. Press the **Set Button** 16 to enter the main punch-through menu branch.

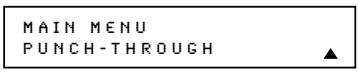

Figure 48

3. At the next menu screen (Figure 49) press the **Set Button** 16 to begin programming the remote for Volume punch-through.

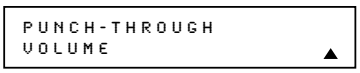

Figure 49

4. The next display screen (Figure 50) is where you select the device that will receive the punch-through commands. In our example, that is the VID 2/TV button, as that is where we want the DPR's volume controls to be active. Press the ▲▼ **Navigation Buttons** 15 until the name of the base device appears and then press the **Set Button** 16.

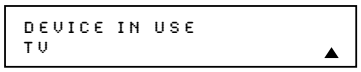

Figure 50

5. At the next display screen (Figure 51), you will select the device whose Volume Up/Down and Mute commands will be used. Press the ▲▼ **Navigation Buttons** 15 until the desired device's name appears to the right of the device in use. In our example, that is the DPR (indicated by DPR). When the desired combination of devices appears, press the **Set Button** 16.

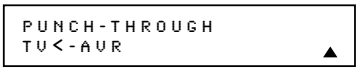

Figure 51

6. When the Set button is pressed, the display will change to show you that the new combination of control commands is being saved to the unit's memory, as shown in Figure 52. The word SAVED will flash four times and then the remote will return to normal operation.

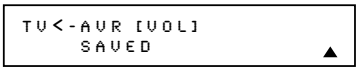

Figure 52

7. Once the punch-through is programmed, the Volume Up/Down and Mute buttons of the second device named will be used when those buttons 40 43 are pressed while the master device is in use.

Returning the Volume Control Settings to Default Operation:
If you wish to remove the Volume punch-through so that the commands for Volume and Mute are returned to the factory default setting, follow the steps shown above, except that in Steps 4 and 5, select the same device for both the DEVICE IN USE on the left side of the bottom line and the PUNCH-THROUGH device. In the example used, the display to return the remote to default settings will appear as shown in Figure 53.

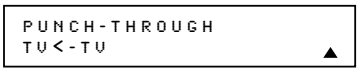

Figure 53

Channel Punch-Through
Channel punch-through allows the Channel Up/Down buttons to send commands to a different device than the one that has been selected for other commands. For example, you may wish to use a cable box or satellite receiver as the source for a VCR, so you would want the **Channel Up/Down Selectors** 42 to transmit commands to the cable box even though the other button commands are programmed to operate the VCR.

To program the DPR for Channel punch-through, follow these steps. This example will show how to program channel punch-through so that the commands programmed for Channel Up/Down for the VID 3/ Cable device will be transmitted when the VID 1/VCR device has been selected as the current device.

1. Press and hold the **Program Button** 37 for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** 3. Release the button when the red light under the **Set Button** 16 appears.
2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** 16 will remain illuminated in red. Press the ▲▼ **Navigation Buttons** 15 until PUNCH-THROUGH appears on the bottom line of the LCD screen, as shown in Figure 48. Press the **Set Button** 16 to enter the main punch-through menu branch.
3. At the next menu screen, press the ▲▼ **Navigation Buttons** 15 until CHANNEL appears on the bottom line of the LCD screen, as shown in Figure 54. Press the **Set Button** 16 to begin programming the remote for Channel punch-through.

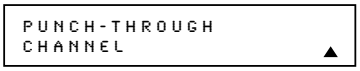

Figure 54

4. The next display screen (Figure 55) is where you select the device that will receive the punch-through commands. In our example, that is the VID 1/VCR button, as that is where we want the cable box's channel controls to be active. Press the ▲▼ **Navigation Buttons** 15 until the name of the base device appears and then press the **Set Button** 16.

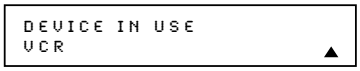

Figure 55

5. At the next display screen (Figure 56), you will select the device whose Channel Up/Down commands will be used. Press the ▲▼ **Navigation Buttons** 15 until the desired device name appears to the right of the device in use. In our example, that is the cable box. When the desired combination of devices appears, press the **Set Button** 16.

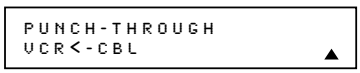

Figure 56

6. When the Set button is pressed, the display will change to show you that the new combination of control commands is being saved to the unit's memory, as shown in Figure 57. The word SAVED will flash four times and then the remote will return to normal operation.

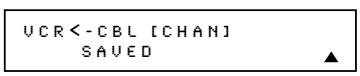

Figure 57

7. Once the punch-through is programmed, the channel up/down buttons of the second device named will be used when those buttons 42 are pressed while the master device is in use.

Returning the Channel Control Settings to Default Operation:
If you wish to remove the Channel Punch-Through so that the commands for Channel Up/Down are returned to the factory default setting, follow the steps shown above, except that in Steps 4 and 5, select the same device for both

the DEVICE IN USE on the left side of the bottom line and the PUNCH-THROUGH device. In the example used, the display to return the remote to default settings will appear as shown in Figure 58.

Figure 58

Transport Punch-Through
Transport punch-through allows the **Play** 26, **Stop** 26, **Fast Forward/Reverse** 26, **Pause** 26, **Record** 26 and **Skip Up/Down** 28 buttons to send commands to a different device than the one that has been selected for other commands. For example, you may wish to operate the transport of a second VCR you have connected to the VID 2/TV input, as shown in the following example.

1. Press and hold the **Program Button** 37 for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** 3. Release the button when the red light under the **Set Button** 16 appears.
2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** 16 will remain illuminated in red. Press the ▲▼ **Navigation Buttons** 15 until PUNCH-THROUGH appears on the bottom line of the LCD screen, as shown in Figure 48. Press the **Set Button** 16 to enter the main punch-through menu branch.
3. At the next menu screen, press the ▲▼ **Navigation Buttons** 15 until TRANSPORT appears on the bottom line of the LCD screen, as shown in Figure 59. Press the **Set Button** 16 to begin programming the remote for transport punch-through.

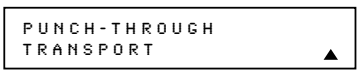

Figure 59

4. The next display screen (Figure 60) is where you select the device that will receive the punch-through commands. In our example, that is the TV button, as that is where we want the VCR's transport controls to be active. Press the ▲▼ **Navigation Buttons** 15 until the name of the base device appears and then press the **Set Button** 16.

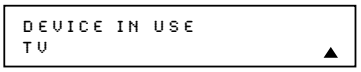

Figure 60

5. At the next display screen (Figure 61), you will select the device whose transport commands will be used. Press the ▲▼ **Navigation Buttons** 15 until the desired device name appears to the right of the device in use. In our example, that is the VCR. When the desired combination of devices appears, press the **Set Button** 16.

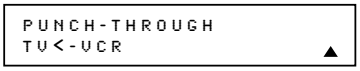

Figure 61

6. When the Set button is pressed, the display will change to show you that the new combination of control commands is being saved to the unit's memory, as shown in Figure 62. The word SAVED will flash four times and then the remote will return to normal operation.

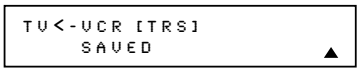

Figure 62

7. Once the punch-through is programmed, the transport buttons of the second device named will be used when those buttons are pressed while the master device is in use.

Returning the Transport Control Settings to Default Operation:
If you wish to remove the Transport Punch-Through so that the transport commands are returned to the factory default setting, follow the steps shown above, except that in Steps 4 and 5, select the same device for both the DEVICE IN USE on the left side of the bottom line and the PUNCH-THROUGH device. In the example used, the display to return the remote to default settings will appear as shown in Figure 63.

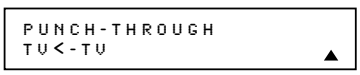

Figure 63

EzSet Configuration

Harman Kardon's patented EzSet feature makes it easier than ever to calibrate the output levels on your new DPR for maximum playback accuracy. In addition to automatically setting the levels, the DPR remote's LCD display allows the unit to be used as a direct read-out SPL meter. Complete instructions for using the EzSet features of the DPR remote are found on page 28 of this owner's manual.

In most cases you will find it easier to access the EzSet capabilities directly by pressing the **SPL Select Button** 41 and following the menu prompts as detailed in page 28. However, there is one function of the remote that is only available through the remote's menu system being described in this section.

To avoid having the calibration settings created with EzSet changed accidentally, the remote allows you to disable the **SPL Select Button** 41 on the remote. To de-activate the button, follow these steps:

1. Press and hold the **Program Button** 37 for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** 3. Release the button when the red light under the **Set Button** 16 appears.
2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** 16 will remain illuminated in red. Press the ▲▼ **Navigation Buttons** 15 until SET SPKR LEVELS appears on the bottom line of the LCD screen, as shown in Figure 64. Press the **Set Button** 16 to enter the main EzSet menu branch.

Figure 64

3. At the next menu screen (Figure 65) press the ▲▼ **Navigation Buttons** 15 once so that EZSET DISABLE appears in the lower line of the LCD display.

Figure 65

4. Within five seconds, press the **Set Button** 16 to disable the **SPL Select Button** 41. Once the **Set Button** 16 is pressed the word EXITING will flash four times in the lower line of the LCD display and then it will return to normal operation.

Once these steps are completed, when the **SPL Select Button** 41 is pressed the remote will show EZSET DISABLE and it will not be activated.

To restore the EzSet feature to normal operation, repeat the procedure outlined above, except that in step #3 you should press the ▲▼ **Navigation Buttons** 15 so that EZSET ENABLE appears in the lower line of the LCD display. When that display appears, press the **Set Button** 16 and the EzSet feature will be reactivated. You may then press the **Clear Button** 34 to exit the remote's menu system and return to normal operation or press the **Set Button** 16 again to immediately use the EzSet feature to calibrate the system as shown on page 28.

Renaming

While the names given to the buttons and inputs on the DPR represent recognizable categories of audio/ video products, system operation may be easier if the displays shown in the remote's LCD screen are customized to reflect the specific characteristics of a playback source's brand name or the new function given to a specific button when one remote's controls are programmed into the DPR remote. The DPR remote allows you to change the name of either a master device or any button on the remote using the following steps.

Renaming a Device

To rename a specific device/input source button, follow these steps. For this example, we will show you how to rename the Device/Input Selector normally shown as "TV" to "HDTV TUNER."

1. Press and hold the **Program Button** 37 for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** 3. Release the button when the red light under the **Set Button** 16 appears.
2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** 16 will remain illuminated in red. Press the ▲▼ **Navigation Buttons** 15 until RENAME appears on the bottom line of the LCD screen, as shown in Figure 66.

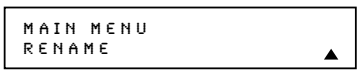

Figure 66

3. At the next menu screen press the ▲▼ **Navigation Buttons** 15 until RENAME DEVICE appears on the bottom line of the LCD screen, as shown in Figure 67. Press the **Set Button** 16 to begin renaming a device.

Figure 67

4. The next display screen (Figure 68) is where you select the device that will be renamed. In our example, that is the TV button. Press the ▲▼ **Navigation Buttons** 15 until the name of the base device appears and then press the **Set Button** 16.

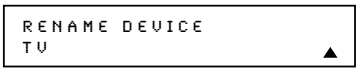

Figure 68

5. At the next menu screen you will see the device name on the bottom line of the display with a blinking cursor box to the right of the device name. Press the ◄ **Navigation Buttons** 15 to return the blinking cursor to the far left side of the display line. You may then retitle the device name as shown in the next step.
6. To enter the new name, press the **Numeric Keys** 18. The letters above the numbered buttons indicate which letter or symbol will appear when the button is pressed during the renaming process. The first press of the button will enter the first letter shown, subsequent presses of the same button will change the display to the other letters above that numbered key. For example, since the first letter we need to rename the input to HDTV Tuner is an "H", you would locate the "H" above the "4" button, and press the button twice. The first press shows a "G," the second press changes it to an "H." Consult the table at the end of this section to see which characters pressing a particular button generates.
7. After you enter the first letter of the new device name, there are three options for entering the next character:
   a. To enter a letter that requires a different numeric key to be pressed, simply press that button. The cursor will automatically move to the next position and the first letter accessed by the new button will appear. Following our example, the next letter needed is a "D," so you would press the "3" button once.
   b. To enter a letter that uses the same numeric key, you must first press the ► **Navigation Buttons** 15 to move the blinking cursor block to the next position. Then press the **Numeric Key** 18 as required to enter the desired letter.
   c. To enter a blank space, press the ► **Navigation Buttons** 15 twice. The first press will move the cursor to the right, and the second press will move the cursor one more space to the right, leaving a blank space between the last letter and the next one.
8. Repeat Step 7 as needed to enter all the needed letters, numbers, characters and spaces.
9. When the text entry is complete, press the **Set Button** 16. The LCD display will blink DEVICE RENAMED three times and then return to normal operation.

Once a device is renamed you will see the new name on the top line of the remote's LCD display whenever the **Input/Device Selector** 5 is pressed, or when any other command/function button on the remote is pressed after the main Device Selector is pressed. Note that renaming a device in the remote will not change the name of the input used by the on-screen menu system of the DPR.

Notes on Renaming Devices:

- To move the cursor to the right or left of the display during the renaming process, press the ◄/► **Navigation Buttons** 15 as required.
- The table below shows the letters, numbers and characters that may be accessed by pressing the Numeric Keys:

Key	Characters	Key	Characters
1	[,],/,1	6	M,N,O,6
2	A,B,C,2	7	P,Q,R,S,7
3	D,E,F,3	8	T,U,V,8
4	G,H,I,4	9	W,X,Y,Z,9
5	J,K,L,5	0	-,.,#,0

- Renaming a device changes the name of the device only, not any of the individual key functions within that device memory. To change the name of an individual device, follow the instructions in the next section.

Renaming Individual Keys

Thanks to the programming flexibility of the DPR remote, an individual button on the remote may be assigned a feature or function that is different from the name that appears as the factory default when the button is pressed. However, with the Rename Key function it is possible to rename almost any button on the remote so that when the button is pressed you will see a more descriptive or appropriate name displayed.

To rename a specific button on the remote, follow these steps. For this example, we will show you how to rename the **Tone Control Button** 45, which is normally not used when DVD is selected so that it reads ZOOM in the remote's display.

1. Press and hold the **Program Button** 37 for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** 3. Release the button when the red light under the **Set Button** 16 appears.
2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** 16 will remain illuminated in red. Press the ▲▼ **Navigation Buttons** 15 until RENAME appears on the bottom line of the LCD screen, as shown in Figure 66.
3. At the next menu screen press the ▲▼ **Navigation Buttons** 15 until RENAME KEY appears on the bottom line of the LCD screen, as shown in Figure 69. Press the **Set Button** 16 to continue.

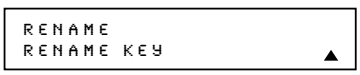

Figure 69

4. The next display screen (Figure 70) is where you select the device within which the key to be renamed exists. Press the ▲▼ **Navigation Buttons** 15 until the name of the base device appears. In our example, since we want to rename a button within the DVD device memory, DVD should appear in the

lower line of the LCD. When the desired device name appears, press the **Set Button** ⑯.

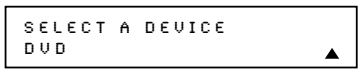

Figure 70

5. At the next menu screen you will select the first button within the device to be renamed, as instructed in the display shown in Figure 71. Select the button by simply pressing it on the remote.

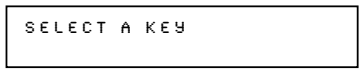

Figure 71

6. Depending on whether or not the button pressed already has a named function within the device selected, one of two things will happen.
   a. If the button to be renamed already has a pre-programmed, or previously renamed title in the remote's memory, you will see that name on the top line of the LCD display, and a blinking block cursor will appear on the far left side of the bottom line of the display, as shown in Figure 72.
   b. If the button to be renamed does not have a function in the device selected, the top line of the LCD screen will be blank, and a blinking block cursor will appear on the far left side of the bottom line of the display, as shown in Figure 73.

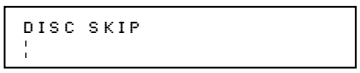

Figure 72

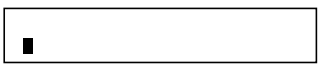

Figure 73

7. To enter the new name for the key, press the **Numeric Keys** ⑱. The letters above the numbered buttons indicate which letters or symbols will appear when the button is pressed during the renaming process. The first press of the button will enter the first character shown, subsequent presses of the same button will change the display to the other letters above that numbered key. For example, since the first letter we need to rename the Tone button to Zoom is a "Z," so you would locate the "Z" above the "9" button, and press the button four times. The first press shows a "W," the subsequent presses step through the other letters available until the "Z" appears. Consult the table on this page to see which characters are available by pressing a particular button.
8. After you enter the first letter of the new device name, there are three options for entering the next character:
   a. To enter a letter that requires a different numeric key to be pressed, simply press that button. The cursor will automatically move to the next position and the first letter accessed by the new button will appear. Following our example, the next letter needed is an "O," so you would press the "6" button once.
   b. To enter a letter that uses the same numeric key, you must first press the ▶ **Navigation Buttons** ⑮ to move the blinking cursor block to the next position. Then press the **Numeric Key** ⑱ as required to enter the desired letter. This is the way you would enter the second "O" in the word ZOOM, and again for the letter "M."
   c. To enter a blank space, press the ▶ **Navigation Buttons** ⑮ twice. The first press will move the cursor to the right, and the second press will move the cursor one more space to the right, leaving a blank space between the last letter and the next one.
9. Repeat Steps 7 and 8 as needed to complete entering the needed letters, numbers, characters and spaces.
10. When the text entry is complete, press the **Set Button** ⑯. The new name will be entered into the remote's memory, replacing the default name.
11. At this point you have two options:
    a. If you wish to program an additional key within the same device, press the **Set Button** ⑯ as instructed by the bottom line of the LCD display reading ANOTHER KEY. The remote will return to the SELECT A KEY menu option as shown in Step 6. Repeat the instructions in Steps 6 though 11 to rename the next key.
    b. If you have no additional keys to rename, press the ▲ **Navigation Buttons** ⑮ once so that the menu screen displays EXIT on the bottom line of the display. Press the **Set Button** ⑯ to return the remote to normal operation.

Notes on Renaming Keys:

- Renaming a key does not change its function. You may change the function of an individual key by learning a new code into the remote. See page 34 for more information.
- When a key is renamed it will only apply to the specific device selected in Step 4. The same key may be renamed as needed for each individual device with which it is used.

Resetting the Remote

Depending on the way in which the remote has been programmed, there may be a situation where you wish to totally erase all changes that have been made to the remote and return it to the factory defaults. You may do that by following the steps shown below, but remember that once the remote is reset, ALL changes that have been made, including programming for use with other devices, learned keys, macros, punch-through settings and key names, will be erased and any settings you had previously made will have to be reentered.

To erase all settings and reset the remote to the original factory default settings and displays, follow these steps:

1. Press and hold the **Program Button** ㊲ for about three seconds while the message shown in Figure 15 appears in the remote's **LCD Information Display** ③. Release the button when the red light under the **Set Button** ⑯ appears.
2. The remote's MAIN MENU message (Figure 16), will appear in the LCD display and the **Set Button** ⑯ will remain illuminated in red. Press the ▲▼ **Navigation Buttons** ⑮ until USER RESET appears on the bottom line of the LCD screen, as shown in Figure 74.

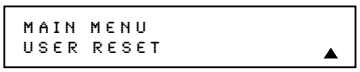

Figure 74

3. Press the **Set Button** ⑯ to reset the remote. Note that once the Set Button is pressed the process may not be stopped. While the remote's memory is being cleared a RESETTING... message will appear in the upper line of the remote's LCD screen as shown in Figure 75.
   It may take a few minutes for the reset process to take place, and the length of time will vary depending on how much customization and programming has taken place. Please be patient; as long as the message appears in the display the remote is functioning properly.

Figure 75

4. When the remote has been totally reset and returned to the factory default condition, a REMOTE RESET COMPLETE message will appear (Figure 76) briefly, and then the remote will return to normal operation.

Figure 76

Additional Notes on Configuring and Operating the Remote:

- When the remote is being programmed, it will automatically time-out if no button is pressed within a thirty-second period. The message shown in Figure 77 will appear briefly, and the remote will then exit the feature being programmed and any data entered will be lost.

Figure 77

- The programming or configuration process may also be stopped at any time by pressing the **Clear Button 34**. The message shown in Figure 77 will appear, the data entered in the current process will be lost and the remote will return to normal operation. Any process that was underway when the button will be pressed must be re-started.
- Extensive use of the programming, learning and configuration functions of the remote may consume significantly more battery power than normal remote operation. While the batteries should last for four to six months in normal operation, you may find that they need to be changed sooner after the remote is programmed for the first time.
- When the batteries approach a level below which the remote will not function, the remote's LCD screen will display a LOW BATTERY warning as shown in Figure 78. We strongly recommend replacing the batteries as soon as this message appears to avoid the loss of programming and configuration settings. These settings are not lost when the batteries are changed quickly.

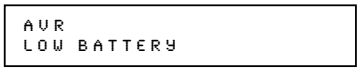

Figure 78

- The remote has a built-in backlight that may be activated by pressing the **Light Button 27**. This button is made from a special "glow" material so that it is easier to find in dark rooms. This glow feature does not consume any electricity, but the glow will fade when the remote is kept in a dark location for an extended period of time. The "glow" feature may be restored by placing the remote in normal room light for a few hours.
- The remote's backlight will remain lit for approximately five seconds after the **Light Button 27** is pressed, and it will stay lit for another five seconds if any key is pressed while the backlight is on. You may keep the backlight lit by holding the Light Button, but extensive use of the backlight will reduce battery life.
- The LCD display will remain on for ten seconds after a key is pressed and then turn off to conserve battery life.
- When any button is held for more than thirty seconds the LCD will turn off and the remote will stop transmitting the codes to conserve battery life.

Troubleshooting Guide

SYMPTOM	CAUSE	SOLUTION
Unit does not function when **Main Power Switch** 1 is pushed	• No AC Power	• Make certain AC power cord is plugged into a live outlet • Check to see if outlet is switch controlled
Display lights, but no sound or picture	• Intermittent input connections • **Mute** is on • Volume control is down	• Make certain that all input and speaker connections are secure • Press **Mute** button 43 • Turn up volume control
Units turns on, but Front-Panel Display does not light	• Display brightness is turned off	• Follow the instructions in the Display Brightness section on page 40 so that the display is set to VFD FULL
No sound from any speaker; light around **Power switch** 2 is red	• Amplifier is in protection mode due to possible short • Amplifier is in protection mode due to internal problems	• Check speaker-wire connections for shorts at receiver and speaker ends • Contact your local Harman Kardon service center
No sound from surround or center speakers	• Incorrect surround mode • Input is mono • Incorrect configuration • Stereo or Mono program material	• Select a mode other than Stereo • There is no surround information from mono sources (except with Theater and Hall surround modes) • Check speaker mode configuration • Some surround modes may not create rear-channel information from nonencoded programs
Unit does not respond to remote commands	• Weak batteries in remote • Wrong device selected • **Remote sensor** 30 is obscured	• Change remote batteries • Press the **AVR Selector** 6 • Make certain front-panel sensor is visible to remote or connect remote sensor
Intermittent buzzing in tuner	• Local interference	• Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances
Letters flash in the **Channel Indicator Display** 24 and Digital Audio stops	• Digital audio feed paused	• Resume play for DVD • Check that Digital Signal is fed to the Digital Input selected

Processor Reset

In the rare case where the unit's operation or the displays seem abnormal, the cause may involve the erratic operation of the system's memory or microprocessor.

To correct this problem, first unplug the unit from the AC wall outlet and wait at least three minutes. After the pause, reconnect the AC power cord and check the unit's operation. If the system still malfunctions, a system reset may clear the problem.

To clear the DPR's entire system memory including tuner presets, output level settings, delay times and speaker configuration data, first put the unit in Standby by pressing the **System Power Control** button 2. Next, press the **Surround Mode** 5 and the **RDS** 16 buttons simultaneously.

The unit will turn on automatically and display the RESET message in the **Main Information Display** 29. Note that once you have cleared the memory in this manner, it is necessary to re-establish all system configuration settings and tuner presets.

NOTE: Resetting the processor will erase any configuration settings you have made for speakers, output levels, surround modes, digital input assignments as well as the tuner presets. After a reset the unit will be returned to the factory presets, and all settings for these items must be reentered.

If the system is still operating incorrectly, there may have been an electronic discharge or severe AC line interference that has corrupted the memory or microprocessor.

If these steps do not solve the problem, consult an authorized Harman Kardon service center.

Technical Specifications

Audio Section

Stereo Mode

Continuous Average Power (FTC)

120 Watts per channel, 20Hz–20kHz,
@ < 0.15% THD, both channels driven into 8 ohms

5/7 Channel Surround Modes

Power Per Individual Channel

Front L&R channels:
120 Watts per channel,
@ < 0.15% THD, 20Hz–20kHz into 8 ohms

Center channel:
120 Watts, @ < 0.15% THD, 20Hz–20kHz into 8 ohms

Surround (L & R Side, L & R Back) channels:
120 Watts per channel,
@ < 0.15% THD, 20Hz–20kHz into 8 ohms

Input Sensitivity/Impedance	
Linear (High Level)	200mV/47kohms
Signal-to-Noise Ratio (IHF-A)	97dB
Surround System Adjacent Channel Separation	
Analog Decoding (Pro Logic, etc.)	40dB
Dolby Digital (AC-3)	55dB
DTS	55dB

FM Tuner Section

Frequency Range	87.5–108MHz
Usable Sensitivity	IHF 1.3 µV/13.2dBf
Signal-to-Noise Ratio	Mono/Stereo: 70/68dB (DIN)
Distortion	Mono/Stereo: 0.2/0.3%
Stereo Separation	40dB @ 1kHz
Selectivity	±400kHz: 70dB
Image Rejection	80dB
IF Rejection	90dB

AM Tuner Section

Frequency Range	520–1710kHz
Signal-to-Noise Ratio	45 dB
Usable Sensitivity	Loop: 500 µV
Distortion	1kHz, 50% Mod: 0.8%
Selectivity	±10kHz: 30dB

Video Section

Video Format	PAL/NTSC
Input Level/Impedance	1Vp-p/75 ohms
Output Level/Impedance	1Vp-p/75 ohms
Video Frequency Response (Composite and S-Video)	10Hz–8MHz (–3dB)
Video Frequency Response (Component)	10Hz-50MHz (-3dB)

General

Power Requirement	AC 220-240V/50Hz
Power Consumption	59W idle, 1088W maximum (7 channels driven)
Dimensions (Max)	
Width	440mm
Height	114mm
Depth	476mm
Weight	10.5 kg

Depth measurement includes knobs, buttons and terminal connections.
Height measurement includes feet and chassis.
All features and specifications are subject to change without notice.

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